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E. S. GAILLARD, M.D.,

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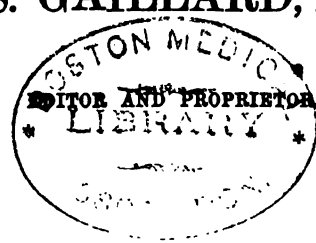

Vol. V. and VI.

LOUISVILLE, KY.,

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INDEX.

A.—Vol. V.

Andrews, Henry F., M.D., Concussion of Spine, 244

Vol. VI.

Anæsthetics, Influence of, Richardson, 263
Analysis of Various Articles, Holloway, 267
Aneurism, Internal, Holloway, 622
Articulations, Keys to the, Hamilton, 582
Ataxia, Progressive Locomotor, Coles, 1
Avery, Henry N., Hermaphroditism, 528

B.—Vol. V.

Bartholow, Dr. Roberts, Gall Stone, 539
Baruch, Dr. S., Chloroform in Pneumonia, 167
Benzoin, Compound Tincture, in Chronic Dysentery and in Mucous Diarrhœa, Chipperfield, 31
Blood-stains, Examination of, Price, 179
Bolton, Dr. James, Fracture of the Vomer, 241
Bozeman, Dr. Nathan, Self-Retaining Speculum, 117
Bromide of Potassium, Fauntleroy, 1
Browne, Rufus King, M.D., Respiratory Changes, 417

Vol. VI.

Baldwin, Dr. W. O., Glanders, 503
Balfour, Dr. Holloway's Analysis, 530
Barth, M., Tuberculosis, 113
Bennett, Dr. J. H., Holloway, 401
Bismuth and Glycerine as an External Application in Small-pox, Richardson, 50
Black, Dr. Chas., Pitting of the Face in Small-pox. 57
Bladder, Hair in the, Whitehead, 371
Blood, Changes of, in Hospital Gangrene, Jones, 225
Brace, New, Tieman & Co., 526
Bryden, Dr., Holloway, 626
Bryant, Dr. Geo. Syng, Trichinæ, 253

C.—Vol. V.

Calabar Bean, Watson, 36
Chinchona, Alkaloids of, 24
Chipperfield, Dr. W. N., Benzoin in Dysentery, 31
Chloroform in Pneumonia, Baruch, 167
Clark, Dr. E. A., Suspension Splint, 435
Clemens, Dr. Jas. W., Acetate of Potash, 444
Croup, Pseudo-membranous, Wilson, 441

Vol. VI.

Cabell, Prof. J. L., Chronic Pneumonia, 338
Cancer, Relief from Pain in 402
Carbolic Acid as a Surgical Dressing, Holloway, 271
Cataract Operations, Chisholm, 467
Children, Plurality of, Analysis, 530
Chisholm, Prof. J. J., Cataract Operations, 467
Cholera, Origin of, Peters, 373
Clark, Dr. E. A., Fractures, 392
Clark, Dr. E. A., Fractures, 515
Clark, Le Gros, Esq., Holloway, 626
Cohnheim, M.D., Inflammation, etc., 148
Coles, Dr. Walter, Progressive Locomotor Ataxia, 1
Cold, Death from, Crecchio, 405
Continued Fever, Stark, 64
Coote, Mr. Holmes, Holloway, 625
Counter-irritants, Hebra, 61
Crecchio, Luigi De, Death from Cold, 405

D.—Vol. V.

Dalton, Prof. J. C., Vivisection, 243
Disinfection, Prof. V, Kletzinksky, 161

Vol. VI.

Digestion, Function of, Analysis, 532
Diphtheria, the Contagiousness of, Humphreys, 252
Doughty, Dr. Wm. H., Pepsine, 591

E.—Vol. VI.

Empyema in Children, Hillier, 67
Eve, Dr. Paul F., Trichiasis, 133
Eve, Dr. Paul F., Siamese Twins, 366
Eve, Dr. Paul F., Tracheotomy, 513
Erichsen, Dr. John E., Fracture of Femur, 153

F.—Vol. V.

Fairfax, Dr. O., Pneumothorax, 115
Fauntleroy, Dr. A. M., Bromide of Potassium, 1
Fauntleroy, Dr. A. M., Fecundity, 426
Fecundity, Fauntleroy, 426

Female Surgery, Nott, 173
Fleming, Dr. Alex., Habit of Opium Eating, 368
Fox, Dr. Tilbury, Skin Diseases, 250
Fracture of Leg, Shoulder and Skull, Phares, 238
Fracture, with Displacement of the Vomer, Bolton, 241

VOL. VI.

Femur, Fracture of, Erichsen, 153
Fractures, Compound, Clark, 515
Fractures, Treatment of, Clark, 392
Fuqua, Dr. Wm. M., Paracentesis Thoracis, 49

G.—VOL. V.

Gunshot Wounds, Morton, 109

VOL. VI.

Glanders, case of, Baldwin, 403
Goodman, Dr. J., Retroversion of the Uterus, 616
Gull, Dr., upon Clinical Medicine, 402

H.—VOL. V.

Habit of Opium Eating, Fleming, 368
Hairlip, Cure of Double, Hammer, 177
Hammer, Dr. A., Hairlip, 177
Hydrophobia, Metteaur, 335

VOL. VI.

Hæmorrhage from the Extraction of a Tooth, 532
Hamilton, Dr. F. H., Articulations, 581
Hebra, Prof., Counter-irritants, 66
Hermaphroditism, Avery, 521
Hermaphroditism, Rawdon, 527
Hermaphroditism, Woods, 529
Hillier, Dr. Thos., Empyema in Children, 60
Holmes, Dr. E. L., Chloroform Poisoning, 251
Holloway, Prof. J. M., Analysis of Various Articles, 267–271
Holloway, Prof. J. M., Bennett, 407
Holloway, Prof. J. M., Sunstroke, 404
Holloway, Prof. J. M., Analysis, 402–402
Holloway, Analysis, 530–532
Holloway, Dr. James M., Analysis, 628
Humphreys, Dr. W. F., Diphtheria, 250

I.—VOL. V.

Inhalation of Atomized Fluids, 352

VOL. VI.

Ichthyosis Glossæ, Holloway, 625
Inflammation and Suppuration, Cohnheim, 148

J.—Vol. V.

Joynes, Prof. J. L., Nævus, 171

Vol. VI.

Jones, Dr. Joseph, Changes of the Blood, etc., 225
Jordan, Mr. Furneau, 404

K.—Vol. V.

Kletzinksky, Prof. V., On Disinfection, 161

Vol. VI.

King, Dr. Wm. R., Extra Uterine Pregnancy, 250

L.—Vol. V.

Laster's New Method of Preparing the Sulphate of Manganese, Semmes, 15

Vol. VI.

Laryngoscopic Lantern, Oliver, 619
Lewis, Dr. Wm. B., Urine Testing, 620
Lithotrity, Thompson, 265

M.—Vol. V.

Metteaur, Dr. J. P., Hydrophobia, 335
Morton, Dr. W. Douglass, Gun-shot Wounds, 109
Muqueuse Nasale, Raimbert, 429

Vol. VI.

McLean, Dr. Charles, Pott's Disease, 129
Mallet, Dr. J. W., Poisoning by Stramonium, 147
Moussous, M., Syphilis, 151
MacIntosh, Dr. A. J., Strangulated Hernia, 404
Maunder, Dr., Holloway's Analysis, 530
Metteaur, Dr. John P., 601

N.—Vol. V.

Nævus Successfully Treated by the Application of Chloroform, 170
Nott, Dr. J. C., Female Surgery, 173

Vol. VI.

Nevins, Dr. J. B., Analysis, 533
Nodules upon the Vocal Cords, Oliver, 397

O.—Vol. V.

Oulmont, M. LeDocteur, Veratrum Viride, 433

Vol. VI.

Obstetric Forceps, Read, 525
Oliver, Henry K., Nodules upon the Vocal Cords, 397
Oliver, Dr. Henry K., Laryngoscopic Lantern, 619
Œsophagus, Foreign Body in, Sayre, 255

P.—Vol. V.

Phares, D. L., M.D., Fractures, 288
Phthisis, Geographical Distribution of, 375
Phthisis, Pulmonary, Value of Arsenic in 427
Pleurisy, Chronic, Triplett, 19
Pneumothorax with Metallic Tinkling, Fairfax, 115
Potash, Acetate of, Clemens, 444
Potassium, Bromide of, Stone, 247
Price, Dr. Thos., Blood-stains, 179

Vol. VI.

Paracentesis Thoracis, Fuqua, 49
Peacock, Dr., Holloway, 624
Pepsine in Diphtheria, Doughty, 519
Peters, Dr. John C., Origin of Cholera, 372
Phthisis, London Lancet, 613
Pitcher, Dr. Z., Extemporaneous Remarks, 363
Pitting of the Face in Small-pox, Black, 57
Placenta Prævia, Thomas, 135
Pneumonia, Chronic, Cabell, 339
Poisoning by Stramonium, Mallet, 147
Poisoning by Chloroform, Holmes, 259
Pott's Disease, McLean, 129
Pregnancy, Extra-uterine, King, 250

R.—Vol. V

Raimbert, Docteur, Muqueuse Nasale, 429
Respiratory Changes, Notes on, Browne, 417
Roussin, Dr., Activity of the Skin, 38

Vol. VI.

Rawdon, Dr., Hermaphroditism, 526
Read, Dr. Wm., Obstetric Forceps, 525
Richardson, Dr. J., Bismuth and Glycerine, 50
Richardson, Dr., Influence of Anæsthetics, 263

S.—Vol. V.

Semmes, Dr. A. Laster's New Method of Preparing Sulphate of Manganese, 15
Skin, Activity of, in the Absorption of Medicines, Roussin, 38
Skin Diseases, Fox, 250
Soda, Sulphate of, in Malarial Fevers, Turner, 40
Speculum, Self-retaining, Bozeman, 117
Spine, Concussion of, Andrews, 424
Splint, Suspension, Clark, 435
Stille, Dr. Alfred, Clinical Lecture, 99
S tille, Dr. Alfred, Clinical Lecture, 225
Stone, Dr. Alex. J., Bromide of Potassium, 247
Stille, Dr. Alfred, Clinical Lecture, 221

Stille, Dr. Alfred, Clinical Lecture, 449
Stones Gall, Bartholow, 489
Superior Maxillary, &c., Excision of, Turnipseed, 349

VOL. VI.

Sayre, Dr. L. A., Foreign Body in Œsophagus, 255
Scarlatina, Prevention of, Analysis, 530
Shinkwin, Dr. Thomas C, Holloway, 623
Siamese Twins, Eve, 366
Smith, Dr. Henry, Holloway's Analysis, 531
Specula, Ancient, Whitehead, 51
Stark, Dr. James, Continued Fever, 64
Stille, Dr, Alfred, Clinical Lecture, 69
Stille, Dr. Alfred, Clinical Lecture, 163
Stille, Dr. Alfred, Clinical Lecture, 271
Stone in the Bladder, Thompson, 156
Sunstroke, Prevention and Treatment of, 401
Sugar in the Urine, Tests for, 613
Syphilis, Moussous, 152
Symonds, Dr. John A., Therapeutic Memoranda, 159

T.—VOL. V.

Triplett, Dr. W. H., Chronic Pleurisy, 19
Turner, Dr. W. Mason, Sulphate of Soda, 40
Turnipseed, Dr. E. B., Excision Superior Maxillary, &c., 349

VOL. VI.

Tieman & Co., New Brace, 527
Therapeutics, Practical, Metteaur, 601
Therapeutic Memoranda, Symonds, 159
Thomas, Prof. T. Gaillard, Placenta Prævia, 135
Thompson, Dr. Henry, Analysis, 532
Thompson, Sir Henry, Lithotrity, etc., 265
Thompson, Sir Henry, Stone in the Bladder, 156
Torsion of Arteries, 405
Tracheotomy, Eve, 513
Trichiasis, Eve, 133
Trichinæ, Bryant, 252
Tuberculosis, Barth, 113

U.—VOL. VI.

Urinary Constituents, Holloway, 624
Urine Testing, Lewis, 620
Uterus, Retroversion of, Goodman, 617

V.—VOL. V.

Veratrum Viride, Oulmount, 433
Vivisection, Dalton, 243

W.—Vol. V.

Watson, Eben, M.D., Calabar Bean, 86
Wilson, Dr. Ben. B., Croup, 441

Vol. V.

Wheelhouse, C. G., Esq., Holloway, 623
Whitehead, Dr. Wm. R., Ancient Specula, 51
Whitehead, Dr. P. E., Hair in the Bladder, 370
Wilkes, Dr. Samuel, Analysis, 531
Williams, Dr. C. I. B., Pulmonary Consumption, 403
Witt, Dr. Charles, Holloway's Analysis, 530
Wood, Dr. S. J., Hermaphroditism, 521

Clinical Records.—Vol. V.

Subcutaneous Injection of Morphia, Dr. W. W. Parker, 41
Clinical Lecture, by Alfred Stille, M.D., 99
Empyema, by Dr. Wm. M. Fuqua, 129
Clinical Case, by Dr. A. Forsythe, 185
Clinical Lecture, by Alfred Stille, M.D., 225
The Mechanical Treatment of the Angular Curvature of the Spine, by J. Anson Bates, 255
Clinical Lecture, Dr. Alfred Stille, 321
Surgical Notes, Dr. S. Baruch, 378
Clinical Lecture, Dr. Alfred Stille, 449

Vol. VI.

Clinical Lecture, Dr. Alfred Stille, 69
Clinical Lecture, Dr. Alfred Stille, 163
Popliteal Aneurism Cured by Compression, Bayless, 180
On Two Cases of Aneurism of the Aorta, Stille, 271
Rheumatic Paraplegia, Stille, 407
Tubal Pregnancy, Martin, 423
Varioloid, &c., Stille, 534
Encysted Pterygium, Desmarres, 548
Suspensory Truss, Gray. 550
On a Case of Acute Myelitis, with Dissection, Dr. Alfred Stille, 627
Imperforate Anus, Dr. A. B. Cook, 645

Original Correspondence.—Vol. V.

Paris, 45; Dublin, 55; Montogmery, Ala., 61; Castleton, Ind., 62
Ontario, Canada, 63; Berlin, 131; Alabama, 185
Kenansville, N. C., 187; Monticello, Fla., 188; Paris, 261
Spartanburg, S. C., 269; Monticello, Fla, 270
Port Sullivan, Texas, 271, 272; Paris, 385; New Canton, Va., 393
Philadalphia, 395; Richmond, Va., 397; Lebanon, Tenn., 397
Detroit, 398; Indianapolis, Ind., 399; Boston, Mass., 399
Vienna, 463; New Canton, Va., 472; Camden, S. C., 473
St. Louis, Mo., 474; Greensboro, Ga., 475

VOL. VI.

Paris, 83; New York, 88; Berlin, 184; Hopkinsville, Ky., 188
Spartanburg, S. C., 191; Richmond, Va., 193; Columbia, S. C., 194
Kennebunk, Me., 195; Berlin, 295; New York City, 300
Louisville, Ky., 303; Berlin, 427; New York, 433
Louisville, 440; London, 552; Amity, Orange County, N. Y., 557
Carter's Bridge, Va., 558; Richmond, Va., 559
Prague, 649; Lexington, Ky., 656; Essex, Va., 657
Kenansville, N. C., 659

REVIEWS AND BIBLIOGRAPHICAL NOTICES.—VOL. V.

Catalogue of the Army Medical Museum, 1863, 64
Catalogue of the Army Medical Museum, 1867, 64
Clinical Lectures on the Principles and Practice of Medicine, by J. H. Bennett, M.D., 68
A Treatise on Therapeutics and Pharmacology or Materia Medica, by George B. Wood, M.D., 69
Epidemic Meningitis, or Cerebro-spinal Meningitis, by Alfred Stille, M.D., Philadelphia, 141
Lectures on the Diseases of Women, Chas. West, M.D., 142
Obstetric Clinic, by George T. Elliott, M.D., A.M., 142
A Practical Treatise on the Diseases of Children, by D. Francis Condie, M.D., 143
The Physiology and Pathology of the Mind, by Henry Maudsley, M.D., 189
Spermatorrhœa, its causes, Symptomatology, Pathology and Treatment, by Roberts Bartholow, A. M., M.D., 190
Annual Abstract of Therapeutics, Materia Medica, Pharmacy, and Toxicology, by A. Bouchardat, M.D., 191
The Signs and Diseases of Pregnancy, by Thomas Hawkes Tanner, F. L. S., 191
Treatise on the Diseases of the Eye, by Carl Stellway Von Carion, M.D., Vienna, 275
Cellular Pathology, by Rudolph Virchow, 276
Practical Treatise on Surgical Apparatus, Appliances, and Elementary Operations, embracing Minor Surgery, Orthopraxy and the Treatment of Fractures and Dislocations, by Philip S. Wales, M.D., Surgeon U. S. N., 277
Guide for Using Medical Batteries, by Alfred C. Garrett, M.D., 278
Obstetrics, the Science and Art, by Charles D. Meigs, M.D., 400
Chronic Disease of the Larynx, with Special Reference to Laryngoscopic Diagnosis and Local Therapeutics, by Dr. Albert Tobold, Lecturer in the University of Berlin, 401
Atlas of Venereal Diseases—Part 1st, 476
Rheumatism, by Wm. Henry Fuller, M.D., 477

VOL. VI.

The Indigestions, or Diseases of the Digestive Organs Functionally treated, by Thomas King Chambers, 92

Medical Report upon the Uniform and Clothing of the Soldiers of the United States Army, 95
The American Journal of Obstetrics and Diseases of Women and Children, 96
Proceedings of the State Medical Society of Kentucky, 196
Micro-Chemistry of Poisons, including their Physiological, Pathological and Legal Relations, adapted to the use of the Medical Jurist, Physician and General Chemist, by Theodore G. Wormley, M.D., 304
Why Not? A Book for Every Woman, by Dr. H. R. Storer, 441
De La Generation Des Elements Anatomiques, by Dr. G. Climenceati, 560
Watters, On the Doctrines of Life, 566
A Practical Treatise on the Diseases of Woman, by T. Gaillard Thomas, M.D., 660
Recherches Experimentales Sur Une Nouvelle Fonction Du Foie, par Austin Flint, Fils, Paris, 664
The Anatomy and History of the Human Eye, by A. Metz, M.D., 667
A Hand Book of Vaccination, by Edward C. Seaton, M. D., 668
A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy, by P. Cazeauz, M.D, 668
The Physicians' Visiting List, for 1869, Lindsay & Blakiston, 669
The Pysicians' Hand Book, 669
The Pocket Record, 669

MISCELLANEOUS.—VOL. V.

Influence of the Sewing Machine on Female Health, 71. Starch, Arrowroot, Sago, and Tapioca, 72. The Non-Mercurial Treatment of Syphilis, 73. A New Metallic Snare for the Ligature of Arteries, N. R. Smith, M.D., 74. London Underground Railway, 75. Alum Crystalization over Fresh Flowers, 76. The Preparation of Pepsine, 76. The Use of Veratrine in Neuralgia, 77. Viburnum Prunifolium, Black Haw, 77. Syrup of Chloroform, 78. Liebig's Artificial Milk, 78. Phosphorus Pills, 79. Blanching of the Hair, 79. Incompatability of Pot. Iodid. and Potass. Chlorat, 80. Boston Free Public Baths, 80. Puncturing of a distended Bladder, 80. To Prevent Metals from Rusting, 80. Charcoal as a Hæmostatic, 80. International Medical Congress, 81. Glycerine Solutions, 83. To Fix Pencil Writing, 83. Vitrifying Iron Surfaces, 83. Another Medical Journal, 83. Minutes of a Meeting of the Richmond Academy of Medicine, 143. Medical Evidence in Railway Cases, 149. The Medical Geology of London, 149. Cottage Hospitals in Europe, 149. Economy in Cookery, 183. Wounds and Their Treatment, 196. Gonorrhœal Rheumatism, 197. Castor Oil in Hæmorrhoids, 202. Prophylactic in Cattle Pest, 202. Pepsine in the Vomiting of Pregnancy, 203. Revalenta Arabica. 203. Monthly Period of Infecundity, 204. Life Insurance Companies, 205. Rapidity of

Nerve Action, 206. Laryngoscopy, 206. On the Therapeutic Effects of Gossypium as an Emmanagogue and Parturefacient, 207. Marine Silk, 207. Making Light of the Dead, 208. Chapped Hands and Lips, 208. Kerosine, 208. Leprosy, 208. Mr. Baker Brown, 109. Remarkable Fecundity, 209. Dangerous to Surgeons, 209. Diseases Produced by Sleeping Together, 209. Miles of Railway in the World, 210. Russian Statistics, 211. America at the Paris Exposition, 211. Trichiniasis and its Effects upon an Unbeliever, 212. Preventing Railway Collisions, 212. Blood in the Body, 212. Baron Liebig, 213. Communicability of Cholera, 213. A General Purgative, 214. A Human Amphibian, 215. Iodine and Carbonic Acid, 315. Vulcanized India Rubber Catheters, 215. Minutes of a Meeting of the Richmond Academy of Medicine, 278. A Pocket Case Hypodermic Syringe, 281. Messrs. Bliss and Sharp, 282. Gentian Root as a Dilator, 282. Dr. Maisonneuve, 283. Treatment in Placenta Prævia, 283. The Course and Effects of Syphillis when Untreated by any Remedies, 284. Electricity in Poisoning by Opium, 286. Pocketing the Pedicle, 286. The Treatment of Diseases of the Throat and Lungs by Inhalation, 287. Prof. E. Andrews, 289. Postural Treatment of Prolapse of Funis, 287. Case of Hydrocele Cured by Faradization, 288. Sound Made Visible, 288. Syrup of the Phosphate of Iron, Quinine and Strychnia, 289. Formula for Donovan's Solution, 291. Arsenious Acid, Mental Medicine, 291. Citrate of Soda in Diabetes, 292. Veratrum Viride, 292. Belladonna in Incontinence of Urine, 293. An Anatomical School, 293. Cause of Lamp Explosions, 294. Illustrations of the Antiseptic Principle of Treatment in Surgery, 295. Professor Pajot, 295. Re-vaccination, 298. Stricture of the Urethra, 298. Detecting Belladonna, 299. The Western Journal of Medicine, 299. The New Orleans Journal of Medicine, 300. Treatment of Purulent Blenorrhagic Conjunctivitis by Means of Frequent Injections of Strongly Alcoholized Water, 302. Bromide of Ammonium, 303. Desormeaux, 304. Antispasmodic and Antineuralgic Pills, 303. Balliere Bros., 304. George Tieman & Co., 304. A Russian Female Physician, 304. Hypodermic Injections of Morphia, 304. Pepsine. 304. Prolonged Gestation, 304. A Useful Hint. 402. Prize, 402. Successors of Wm. Velpeau and Nelaton, 402. Storage of Rain Water, 403. New Method of Local Anæsthesia, 403. Cause of Scurvy, 404. University of Michigan and Homœopathy, 404. The Preservation of Meat, 405. Subperiosteal Resections of the Elbow, 405. Microscopical Examination of Valuable Papers, 405. Characteristic Fungi in Various Diseases, 406. Warmth of the Snow Blanket, 407. Dumb Man's Speech, 407. Ovariotomy, 408. Bromide of Potassium, 408. Iodinized Cod Liver Oil, 408. Reunion of an Amputated Finger, 409. Case of Abnormal Gestation, 482. Richmond Academy of Medicine, 497. Sir David Brewster, 500. Colorless Tincture of Iodine, 504.

VOL. VI.

Josephine Myrtle Corban, 97. Carbolic Acid in Burns, 100. A Foreign Journal on Dr. Salisbury's Discovery, 100. Medical Students, 100. American Medical Association, 197. Reply to "Observations on Diphtheria," 199. Splint for Hip Joint Diseases, 205. A Remarkable Case, 208. Epistaxis, 208. Transfusion of Blood, 208. Modern Printing, 209. Modern Homœopathy, 310. Treatmene of Diseases of the Heart, 320. Uterine Injections, 322. Sunstrokes, 322. Fracture of the Patella, 323. Medical Bullet Probe, 325. Deaths from Sunstroke, 325. Professor Verdugo, 325. The Hippocratic Oath, 326. A Contrast, 326. Rankin's Abstract, 327. Bleeding, 327. Dr. J. A. Adolphus, 327. Half Yearly Compendium of Medical Science, 327. Velpeau's Last Words, 327. Night Perspirations, 447. Abeille, 447. Hyposulphite Treatment in Intermittent Fever, 447. The Nutriment of Beer, 447. Chloroform, 448. Open Cancer, 448. Nitrous Oxide Gas, 569. Paper for Surgical Dressing, 570. Disinfecting Agents, 571. A New Endoscope, 670. The Dry Earth System, 673. Carbolic Acid in Burns, 695. Links of Science, 676. Vaginismus, 676.

MEDICAL NEWS.—VOL. V.

Sir James South, 84. Dr. Worthington Hooker, 84. Velpeau, 84. The Learned Professions, 84. Sir William Ferguson, 84. "Richmond Academy of Medicine," 84. Mr. Syme, 84. Appointments, 85. Long Island College Hospital, 85. College of Physicians and Surgeons, 85. University of South Carolina, 85. Prizes, 85. Boylston Prize of Harvard University, 85. Prizes, 86. New Books, 86. Prof. T. G. Thomas, 86. Dr. Antoine Ruppaner, 86. "Trousseau's Clinical Medicine," 151. Quadruple Birth, 151. Von. Græfe, 151. Surgical Instruments from Pompeii, "The American Journal of Obstetrics, etc., 151. Dr. Bliss, 151. Dr. O'Connor, 151. The Boston Medical and Surgical Journal, 152. A Well Deserved Honor, 152. Desiccated Egg, 152. Reclamation, 216. Death of M. Flourens, 216. Comparative Safety of Ether and Chloroform, 216. Resignation of Prof. Nelaton, 217. Queries for Observers, 217. Coal Oil Light, 218. Sir David Brewster, 218. Transmission of Syphilis to Animals, 219. Mr. Claude Bernard, 220. Hippophagy in New York, 220. Dr. Charles E. Taylor, 220. Bellevue College, 305. Jerusalem, 305. M. Sarrazin, 305. Mr. Charles Robin, 305. Mr. Sappey, 306. M. Ricollet, 306. Spiders. 306. Medical College of Virginia, 410. Kentucky School of Medicine, 410. Medical Department of the University of Louisville, 410. Bellevue Hospital Medical College, 410. University of the City of New York. College of Physicians and Surgeons, 410. Jefferson Medical College of Philadelphia, 410. Medical College of South Carolina, 410. Miami Medical College, 410. Cincinnati College of Medicine and Surgery, 411. Buffalo Medical College, 411. Rush Med-

ical College of Chicago, 411. Medical College of Ohio, 411. University of Pennsylvania, 411. Pension, 411. Mutter Lectures, 411. The Gulstonian Lectures, 411. Dr. Ludwig Turck, 412. New Embalming Process, 412. The Health of the Pope, 412. Medical College of Virginia, 505. The American Medical Association, 506. Professor J. J. Chisholm, 507. Louisville Summer School of Medicine, 507. Louisville Preparatory School of Medicine and Surgery, 507. Death of Professor Pirogoff, 507. Cinnabar, 508.

VOL. VI.

Dr. J. Aiken Meigs, 101. Pirogoff not Dead, 102. Dr. J. J. Chisholm, 102. Decision of Chancellor Shackeltord in the great Medical College Case, 209. Medical Department of Washington University, Baltimore, Md., 211. Medical College of the State of South Carolina, 212 Medical Department of the University of Louisville, 212. Lung and Eye Diseases, 213. New Sydenham Society's Publications, 213. University of Nashville, 327. Druggists Renewing Prescriptions, 328. New Medical Journal, 328. Messrs. Lindsay & Blakiston, 328. An Autopsy, 328. Prizes, 328. Cattle Disease, 329. Lying-in-ward, 329. Deaths, 329. Accident, 329. The Ann Harbor College, 329. Dr. J. G. Richardson, 329. Detroit Medical School, 329. The Berkshire Medical College, 329. Prof. Hallier, 329. Dr. L. A. Sayre, 330. Messrs. Kelly & Piet, 330. New York Medical Gazette, 330. Ferro Manganic Preparations, 448. The Duke of Anhalt, 449. Dr. John McKenzie, 449. New Test for Blood-stains, 449. Personal, 449. A Sensible Legislature, 450. The Vocal Cords, 450. Changes in Medical Journals, 450. Death of a Noted Chemist, 450. Judge Drummond, 451. The Late Michael Faraday, 451. Long Island College Hospital, 451. Another Medical College in Tennessee, 451. Obituary Record, 451. Prof. Paul F. Eve, 451. Medical Students, 571. A Desirable Invention, 571. Homœpathy Expelled from Russia, 572. Honors, 572. New Law in Ohio, 472. Prof. E. R. Palmer, 472. Kentucky School of Medicine, 472. Dead, 472. Prof. J. J. Chisholm. 473. Cyanide of Potassium, 678. Laennec, 678. Mr. Saix, 678. Convenient Vehicle for the Application of Nitrate of Silver, 678

EDITORIAL.—VOL. V

Co-partnership Dissolved, 87
The Regeneration of the Periosteum, 88
Transactions of State Medical Societies, 90
Dr. J. C. Mobley, 91
Institution for the Dumb at Brussels, 91
Notices, 91 94
Married, 94
Answers to Correspondents, 94
Books and Journals Received, 95
Agents, 96

Patholgoy and Treatment of Phthisis, 153
The Cincinnati Medical Repertory, 155
Literary Journal of Science and Art, 155
Michigan University Magazine, 155
Dr. E. H. M. Sell, 155
Mr. John Dunlop, 155
Notices, 156–157
Answers to Correspondents, 158
Books and Journals Received, 159
Exchanges, 160
Agents, 160
Summer Schools of Medicine, 221
A Double Number, 223
Notice, 223
Books and Journals Received, 224
Meeting of the American Medical Association, 307
The New Anæsthetic: Bichloride of Methylene, 310
To Physicians, 313
Archives de Physiologie, 314
Iodine and Carbonic Acid, 314
University Dispensary School, 314
Died—Dr. T. Y. Baninster, 315
Additions to Exchange List, 315
Richmond Agents, 315
Notices, 316–318, 415, 513–515
Books and Journals Received, 319, 415, 515
Agents, 320
Editing and Translating Foreign Works, 413
Removal of Journal to Louisville, Ky., 414, 510
The Associate Editors and General Management of this Journal, 508
Associate Editors, 511
The Southern Planter and Farmer, Richmond, Va., 512
The Kentucky State Medical Society, 512

VOL. VI.

American Medical Association, 102
The Unimanual Hypodermic Syringe, 107
Mr. E. Steiger, 107
The Craig Microscope, 108
Mr. W. P. Holloway, 108
Mortuary, 109
Notices, 109–111
Books and Journals Received, 112
Medical Examiners of Life Insurance Companies, 214
An Analytical Department, 220
The Pacific Medical and Surgical Journal, 221
Advertisements Editorially Noticed, 221
Enlargement of Journal, 222

In Memoriam, 222
Died, 223
Notices, 223–224
Books and Journals Received, 224
Transgressors of Medical Ethics, 330
Professor S. H. Dickson, Surgical Diseases of Women, 333
Prize Essays, 334
New American Encyclopedia, 334
Article Not Credited, 334
The Craig Microscope, 335
The Counter Irritation of Cups increased, 335
St, Louis College of Pharmacy, 336–337
Notices. 466, 577–580
Books and Journals Received, 337–455, 580
The American Medical Association, 452
The American Journal of Obstetrics, 460
Professor F. T. Miles, Mortuary, 465
The Relations of Diet, to the Waste and Repair of Tissue, 578
Aitken's Practice of Medicine, 577
Professor Steven's Address, 577
Pure Concentrated Medicines, 518
Professors Bartholow and Blackman, 578
New Journals, 579
Transactions of the Indiana State Medical Society, 579
Messrs. Bell & Co., 579
The Close of the Year, 699

The Medical Bulletin, 690
Hegeman's Cod Liver Oil, 690
The First Paragraph in Regard to Money, 690
Important Work for Every Physician, 691
Mr. R. H. Singleton, 691
The Medical Department of the University of Louisville, 692
Notices, 692
Books and Periodicals Received, 692

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THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. 1.—PROGRESSIVE LOCOMOTOR ATAXIA. Being extracts from two papers on "Progressive Locomotor Ataxia, with special reference to its differential diagnosis," read before the Wood County Medical Association, Parkersburg, W. Va., in May and June, 1867. By WALTER COLES, M. D., Professor of Diseases of Women and Children, Medical College of Virginia.

In passing to the consideration of progressive locomotor ataxia, or, as it is sometimes called, Duchenne's disease, it is desirable, as far as possible, to settle its pathological status, and we find it all the more necessary so to do, inasmuch as our views differ from many of those hitherto expressed concerning this affection.

What, then, are the symptoms of progressive locomotor ataxia? Clinical observations teach us, that this malady has no fixed mode of advent. In the majority of cases the first approach of the disease is in the form of shooting pains, darting like electric shocks along certain portions of the limbs, more particularly the lower. These pains recur at intervals of several weeks or months, generally increasing in frequency and severity for many

months or years. Sometimes they linger in the neighborhood of a joint, arousing a suspicion of rheumatism.

Though often shifting from point to point, and even from limb to limb, they chiefly confine themselves to certain nervous channels. They are oftentimes confined exclusively to one limb for a length of time before attacking the other; then, again, the lower limbs are affected simultaneously. At this juncture, or after a variable length of time, some impairment of the functions, either of the eye or its appendages, frequently becomes manifest—the patient finds himself suddenly seized with ptosis, strabismus, amblyopia, diplopia, or even triplopia of one or both eyes. In case of diplopia, objects are generally seen one above the other. The state of the pupil may be normal, contracted, or dilated. In some of these cases conjunctival congestion and chemosis are observed. Amaurosis, when once established, generally remains to the last, the other symptoms, especially those connected with the appendages of the eye, are less stable, being liable to frequent fluctuations, and sometimes disappear altogether.

Occasionally the first symptom noticed, is a sense of tingling and numbness, either in the toes or fingers, gradually spreading up the limbs or confined to special portions of it. When the hand is affected, the numbness oftener attacks the ring and little fingers, or the ulnar side of the forearm. These sensations, however, oftener come on simultaneously with the pains or after a longer or shorter interval, but almost always appear in the same limbs attacked with pain. About this time the patient complains of a feeling, as if a pad or india rubber were interposed between the soles of the feet and ground, and a peculiar unsteadiness of gait and sense of insecurity in standing. He frequently stumbles, and is liable to fall in running. These difficulties of locomotion gradually

grow worse, and soon walking becomes difficult, and even impossible, without the aid of a staff or some object to lean upon. The limbs, although possessed of their normal strength, are uncontrollable by the will; they fly wildly about; the gait becomes reeling and staggering; in stepping, the foot is lifted up in a peculiar manner; is thrust forward with a spasmodic jerk, and planted forcibly, the heel coming down first. In the dark or on closure of the eyes, these symptoms are greatly aggravated, the limbs refuse to support the body, and the patient falls to the ground, unless supported by a wall or some other object. Accompanying these symptoms is generally a marked impairment of tactile sensibility, together with the sense of muscular contraction and that of tickling. The sense of pain and differences of temperature frequently remain intact until the last. There are, however, sometimes subjective sensations of cold in the limbs. Instead of anæsthesia, there is sometimes hyperæsthesia during the earlier stages of the complaint.

In most cases the sexual powers are weakened very early in the disease; in other instances they remain in full vigor, until during the latter stages, when impotency almost always occurs. In still another class of cases, the sexual organs are unduly excited and maintain an increased vigor during a considerable length of time, (during which period nocturnal emissions are frequent,) to be finally replaced by partial or complete impotency.

The bladder, especially in the males, is nearly always affected in progressive locomotor ataxia. At first urination is considerably more frequent. This state is sooner or later succeeded by dribbling, nocturnal incontinence, and, in some instances, paralysis of the organ. The rectum is frequently, but not so markedly affected. Besides the third and sixth, we find occasional disturbances in the fifth and seventh cranial nerves.

The above is a fair recital of the ordinary behavior of a case of locomotor ataxia, though it must not be understood that all of the above symptoms are present in every case, or that they appear in the precise order above indicated. Most of them, however, make their appearance at one period or another in the progress of the disease, which is oftentimes exceedingly slow, taking five, ten, fifteen or twenty years to develop itself. During this time there are frequent ameliorations and exacerbations, but, unfortunately, the invariable tendency of the disease is to *progress*. If the lower limbs are the first involved, the disability finally travels to the upper, and each year finds the patient more and more helpless, until finally, in spite of all remedies, death ends his sufferings.

In order to investigate this subject profitably, it will be necessary to enter into a review and analysis of some of the literature of the disease. First, with reference to its name and original recognition, and, second, with regard to its physiological and pathological bearings.

The time was, when progressive locomotor ataxia was doubtless confounded with many of the forms of paralysis proper, nor was it until the year 1811, when Sir Charles Bell first pierced the vail which had previously enshrouded the wonderful mechanism of the nervous system, in that little publication of his entitled, "An Idea of a New Anatomy of the Brain, submitted for the observation of the author's friends," and in subsequent papers, read by him, at intervals, before the Royal Society, up to the year 1829, that any practical advances were made in the study of nervous pathology. Immediately following the experiments of this distinguished physiologist, came the publications of Cooke, Shaw, Magendie and others, all of whom reached the key note which had been sounded in Windmill street. From that time to the present, physiology has made rapid strides and gathered

fresh interest with each revolving year, until to-day we find it the interpreter of many of the most intricate and heretofore incomprehensible of all pathological mysteries.

A distinction between absolute paralysis and a simple inability to coördinate muscular acts, was early recognized by Sir Charles Bell, both as the result of experiment and clinical observation, and explanations offered by him, to which allusion will be again made further on. Several of the cases reported by him are undoubtedly instances of progressive locomotor ataxia, and, although denominated *partial paralysis*, he is yet pointed in averring that there existed no want of *power*, but simply a lack of harmony in the various groupes of muscles employed in any given action. In describing such cases, that eminent author says: "I find that some are capable of lifting heavy weights, or walking fifteen or twenty miles, and yet they have not the proper command of their limbs; there is an insecurity and want of confidence in the motions of the body, which overtakes them upon any excitement; a paralysis of the knees, which prevents the individual from putting one leg before the other, and which endangers his falling. Thus, a gentleman, capable of great bodily exertion, on going to hand a lady to the dining room, will stagger like a drunken man; and, in the streets, any sudden noise, or occasion of getting quickly out of the way, will cause him to fall down, and, in this manner, want of confidence produces a nervous excitement, which increases the evil. *With confidence, the power of volition acts sufficiently;* there is neither defect of speech nor irresolution in the motion of the limbs, when the person is at ease or under a flow of spirits."*

It was Romberg,† however, who, upwards of a third of a century ago, first grouped their peculiar phenomena,

*Appendix to "The Nervous System of the Human Body," p. 223.

†"Diseases of Nervous System," (Sieveking) vol. 1, p. 395.

thus theoretically and practically pointed out by his illustrious English neighbor, into a distinct nosological affection, and tracing these symptoms by the light of the physiological data then existing, referred to a fixed pathological lesion of the medulla spinalis. From the character of the morbid changes discovered, he called the disease *tabes dorsalis*, a term which, although originating with Hippocrates, seems never, until within the present century, to have possessed any other than a vague significance. It was employed by the Father of Medicine to denote that general deterioration of the system and weakness of the back, familiar to us all as a result of spermatorrhœa and sexual debauchery."*

Romberg's description of the symptomatology and pathological anatomy of the disease seems to have been fully recognized and received by many eminent authors who wrote immediately succeeding him. In his Pathological Anatomy (1837), Cruveilhier relates several cases at length, and, after stating the symptoms of tabes dorsalis, speaks of the anatomical lesions as consisting of a "yellowish gray transformation of the posterior columns of the spinal cord."†

Müller, in his Elements of Physiology, part III (1837), speaks of "tabes dorsalis" in such terms as to identify it with the disease alluded to by Romberg and Cruveilhier. After which came clear and satisfactory descriptions of the malady in question by Bracht‡ de Cologne (1840), Hanley¶ (1840), Constall|| (1843), and Todd§ and Wünderlich** some ten years later. In 1858, M. Duchenne

*Hippocrates, liber II, chap. xix, De Morbis.

†Vide, Progressive Locomotor Ataxy.—American Journal Med. Sciences, Jan. 1864.

‡Consult Axenfeld, Arch. Gen. de Med., Aug. 1863, p 214.

¶Med. Chir. Transactions, xxiii, 80, 1840.

||Handbuch der Med. Klinik, 2d ed. III, p. 207.

§See article on Paralysis (Cyclopedia.)

**Practice of Medicine, 1853-54.

de Boulogne published his first paper on the subject, in which he calls the disease, in deference to its symptoms, *progressive* locomotor ataxia.* This publication was followed by others in 1859, in which M. D. presented the subject in so interesting an aspect as to attract the attention of all Europe. From the prominence thus given, it has been called, especially in France, *Duchenne's disease.* It has been known by a number of other terms, all of which have reference either to the symptomatology on the one hand, or the lesional origin on the other. The terms partial paralysis, tabes dorsalis, myelo phthsis, atrophy of the posterior columns of the cords, progressive spinal paralysis, Todd's disease, progressive locomotor ataxia, Duchenne's disease and progressive locomotor synergia have all been employed to denote the same affection, beginning with Sir Chas. Bell and ending with Trousseau.

Since the publication of Duchenne's paper, in 1858, many valuable contributions have been made to the literature of the disease. Among the more prominent trans-Atlantic dissertators on the subject may be mentioned M. Duchenne (de Boulogne) Bourdon, Trousseau, Lecoq, Sappey, Dujardin, Beaumetz, Charcot, Vulpian, Moreau, Vidal, Beau, Carré Dugnet, Oulmont, Vaisin, Donnezan, Topinaed, Jaccoud, Axenfeld, Herschell, Dupuy, Bouchardat, Bazin, Todd, Brown Séquard, Gull, Keith, Ramskill, Galloway, Clarke, Radcliffe, Jackson, Johnson, Althaus, Edwards, Wünderlich, Friederich, Virchow, Türck, Rokitansky, Leyden, Remak, Eisenmann, Nothnagel, Bablin, Oppölzer and others, while, in this country, the disease has been alluded to by Stillé, DaCosta, Wood and Flint.

We have been thus particular in tracing the history of progressive locomotor ataxia from its earliest recognition down to the present, for the purpose of giving prominence to two facts: 1*st. That it is not, as many suppose, a*

*Arch. Gen. de Med., Dec. 1858, p. 641.

new disease; and 2d, that it is identical, in all of its essential features, with the tabes dorsalis of Romberg, so fully recognized by various pathologists before Duchenne christened it with a new name; a name which, as we shall presently see, indicates simply the nosological category into which its originator, and those who accepted his views of its pathology, would place it. It remains to be inquired, how far these views coincide with its clinical history and the teachings of physiology.

According to Althaus,* Duchenne published his first paper on this subject in ignorance of the fact that it had been previously discussed, both in England and Germany, under the name of tabes dorsalis, or atrophy of the posterior columns of the cord, and although this has been contradicted by M. Trousseau in behalf of his friend Duchenne, yet it cannot be denied that, in some quarter, credit has been awarded the latter which properly belongs elsewhere. For example, Trousseau in commenting upon this subject, says: "No physician before Dr. Duchenne (de Boulogne) ever thought of testing the muscular power of these so-called paralytic patients. The idea first occurred to this savant, and he it was who detected that their muscular power was considerable, and that they only lacked the faculty of coördinating their movements."† Dr. C. B. Radcliffe‡ is pointed in making a similar statement. It is impossible, however, to read carefully Sir Charles Bell's analysis of several of his cases without recognizing the fact, that the honor thus conferred upon Duchenne belongs properly to him. This is sufficiently illustrated in the quotations alreay made from his work on the nervous system; but the following case, found on page 221, reported by Mr. Bailey, of Thetford,

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*Lancet, Dec. 30, 1865, p. 736.

†Trousseau's Clinical Medicine, part I, p. 145.

‡Lancet, Aug. 19, 1865, p. 193.

is presented by him for the very reason that it "*describes an effection of the nerves of sensation as opposed to those of motion.*" We give so much of the case as illustrates the point involved: "Mrs. ——, aged 66 years, a lady of high respectability, consulted me October last, in consequence of experiencing a numbness in the hands and fingers, which, to her sensation, felt as if some sand were interposed between them and the object touched. *There was no want of power in the muscles, excepting a slight stiffness, as any substance could be firmly grasped.* So impaired is the sense of touch that it is with difficulty she can distinguish the object wanted; this is particularly the case when feeling in her pocket." The distinction thus pointed out between the power simply to contract muscles and the capacity to regulate and combine their movements has been subsequently fully recognized by Müller, Todd and others. It is, nevertheless, due to Duchenne that he should receive the credit which so properly belongs to him, of having furnished the most satistactory clinical history of this interesting affection.

From the date of Duchenne's first paper, a fresh interest has been imparted to this subject; the great sagacity displayed in pointing out many interesting and important features in its clinical character, together with new and ingenious views of its pathology, has attracted the universal attention of the profession and elicited much discussion. But, while there exists a great diversity of opinion in regard to the real pathology of the affection, those who have debated the question may be divided into two classes. First, those who believe with the older writers, Romberg, Cruveilhier and others, that the disease consists essentially of a *tabes* or atrophic degeneration of the posterior columns of the cord, and that all of its necessary and invariable diagnostic features are the result of fixed organic lesions; and second, those belong-

ing to the Trousseau school, who class the disease with the *neuroses* and consider all local structural changes merely incidental complications of secondary importance.

We will now attempt to analyze, as fully as our limited space will permit, the respective positions of these two classes of pathologists in the light of such clinical, pathological and physiological data as we possess, and endeavor to reach conclusions which, it is hoped, will be in harmony with the teachings of all three of these branches of science. What, then, are the post mortem revelations in progressive locomotor ataxia? Do autopsic investigations invariably reveal structural changes? and, if so, what relationship, if any, exists between such lesions and the symptoms recognized during life?

From the time of Romberg it has been in extremely rare instances that physicians have failed to detect organic changes on post mortem examination, in progressive locomotor ataxia. Romberg* gives the following as the result of his observations. He says: "It is a point of especial interest to observe that the posterior sensory roots are occasionally alone affected in conjunction with the posterior columns of the spinal cord, the anterior motor columns and nerves retaining their normal structure." Müller† is not so exact, but speaks of the disease as "an atrophy of the cord." Cruveilhier‡ found "a yellowish-gray transformation of the posterior columns of the spinal cord." These accounts are substantiated by the observations of Hanley, Constatt, and other German pathologists. In regard to the autopsic appearances in M. Duchenne's first case, we have the following notes from that distinguished author. He says "the encephalon and spinal cord, on the most careful examination,

*Diseases of the Nervous System. Vol. II, pp. 395-401 (Selveking).
†Op. Cit., p. 807.
‡Path. Anatomy (1837), Livraison XXXII.

presented no anatomical lesion appreciable to the *naked eye.*"* On the other hand, M. Bourdon† gives the following as the result of thirteen post mortems. He says: "The posterior columns of the cord, and sometimes the cineritious substance also had undergone degeneration, were of a grayish-yellow color and semi-transparent; the posterior roots of the spinal nerves were also atrophied; sometimes the optic nerve, and in one case the tubercular quadrigemina had become altered." In an elaborate paper on this subject, Mr. J. Lockhart Clarke‡ thus describes the pathological anatomy of the disease. He says: "In true locomotive ataxy the spinal cord is invariably altered in structure. Its membranes, however, are sometimes unaffected or affected only in a slight degree; but generally they are much congested, and I have seen them thickened posteriorly by exudations, and adherent not only to each other, but to the posterior surface of the cord. The posterior columns, including the posterior nerve roots, are the parts of the cord which are chiefly altered in structure. This alteration is peculiar, and consists of atrophy and degeneration of the nerve fibres to a greater or less extent, with hypertrophy of the connective tissue, which give to the columns a grayish and more transparent aspect, and in this tissue are imbedded a multitude of corpora amylacea. Many of the blood vessels that traverse the columns are loaded or surrounded to a variable depth by oil-globules of different sizes. For the production of ataxy, it seems to be necessary that the changes extend along a certain length—from one to two inches of the cord. The posterior nerve roots, both within and without the cord, are frequently affected by the same degeneration, which sometimes extends to the

*Traite de le'Electrisation localesee p. 608.
†Arch. Gen. de Med., Nov., 1861, Avr., 1862.
‡Lancet, June 10, 1865.

surface even of the lateral columns and occasionally along the edges of the anterior. Not infrequently, the extremities of the posterior cornua, and even deeper parts of the gray substance, are more or less damaged by areas of disintegration. The morbid process appears to travel from centre to periphery; that is, from the spinal cord to the posterior roots. In the cerebral nerves, on the contrary, the morbid change seems to travel in the opposite direction; that is, from the periphery towards the centres. From the optic, it has been found to extend as far as the corpora geniculata, but seldom as far as the corpora quadrigemina. With the exception of the fifth, seventh and eighth pair, all of the cerebral nerves have occasionally been found more or less altered in structure."

We might quote from many other eminent authorities, but enough has been said to indicate the general and uniform concurrence of pathologists respecting the lesions found in patients dying of ataxia; and if anatomical changes have been noted by more recent writers, not spoken of by the earlier commentators on the disease, it by no means indicates that such did not exist with as much uniformity in their cases as at present, but only demonstrates the value of the microscope and an improved physiological knowledgead, as juncts in our pathological investigations.* The lack of the former (for the examination was only conducted with the *naked eye*) seems to have led Duchenne into error respecting his first case, for on the result of his examination in this instance, he formed a theory in regard to the disease which he has subsequently found it necessary to abandon. For on further investigation and experience, so far from finding the disease "necessarily dependent on some structure or functional lesion of the cerebellum," his observa-

*See Brown Sequard's lecture on Applicationof Physiology to Practice.—Dublin Quarterly Jour. Med., May, 1865.

tions have been in keeping with those of other members of the profession whom we have cited. The statement should not be omitted, however, that cases of ataxia are recorded in which no alteration of the posterior columns and nerves was detected, the anatomical changes being found on the anterior aspect of the cord. Such instances are, according to Trousseau, "*rare and very exceptional*,"* and from the striking similarity between the symptoms in true locomotor ataxy and those witnessed in many forms of paraplegia, it is not improbable that many of these are instances of *errors in diagnosis*, (such as have been committed in phthisis and all other organic affections,) rather than exceptions to the general rule.

Having thus observed the universality with which anatomical changes are observable in progressive locomotor ataxia after death, we come now to inquire, what relation, if any, exists between such lesions and the symptoms recognized during life? The first step in this most important portion of our investigation is to ascertain *what are the functions of those portions of the nervous system found structurally implicated in this disease.* Sir Charles Bell† took the first step towards the elucidation of this subject when he pointed out the difference in the functions of the posterior and anterior roots of the spinal nerves, in which he demonstrated the fact that the anterior roots are conductors of motorial impulses from the brain towards the periphery, while the posterior roots are conductors of sensory impressions from the periphery towards the brain. This discovery was followed by that of M. Hall, in which reflex action, or the mutual relation between the functions of the sensory and motor or the efferent and afferent nerves was fully explained. Since these discoveries have been made in the study of

*Clinical Med., part I, p. 178.

†Nervous System of the Human Body, pp. 26-7.

nervous physiology, we have many important acquisitions to this branch of science, due mainly in late years to the researches of those distinguished physiologists, Brown Séquard and C. Bernard; especially are we indebted to the former for his labors in analyzing and separating the functions of various sentient nerve fibres, and to the latter, for his investigations in the sympathetic—both of which subjects are of especial interest in connection with progressive locomotor ataxia.

This brings us to inquire into the distribution of the motor and sensory, or efferent and afferent nerves, upon entering the spinal cord. The time was when the anterior and posterior nerves were supposed to pass in totality from their entrance into the cord to the brain, while the experiments of Longet and Van Deen led them to refer the same functions to the anterior and posterior columns of the cord, as had been previously ascertained to exist in the anterior and posterior nerve roots. These nerves have, however, been somewhat modified of later years, and it is now conceded that the gray matter of the spinal axis plays an important part in the conducting power of that organ, in addition to its equally well ascertained function as an independent ganglionic centre. M. Brown Séquard, to whose untiring industry we are constantly indebted on this and all kindred subjects, takes intermediate ground between the two extreme theories. First, that the afferent nerves pass immediately up the posterior columns to the encephalon; and second, that the afferent nerves all end in the cincritious substance of the cord, which completes their connection with the brain. Prof. J. W. Draper* thus states Dr. Brown Séquard's views in reference to this point and adopts them as his own. He says: "It is his opinion (B. S.) that sensitive impressions

*Human Physiology, p. 229.

reaching the cord pass in different directions, some ascending, others descending, but both going in part by the posterior columns and in part by the posterior gray horns, and perhaps by the lateral columns, to penetrate, after a short distance, the gray central substance by which, or in which, they are transmitted to the brain." In his remarks upon this subject, Prof. Dalton expresses himself thus. He says: "The anterior and posterior columns of the cord are accordingly so far analogous in their properties to the anterior and posterior roots of the spinal nerves, and are plainly composed, to a greater or less extent, of a continuation of their filaments."*

With the foregoing physiological points fixed clearly in our minds, we are ready to return to our inquiry into the relation existing between the autopsic lesions found in progressive locomotor ataxia and the symptoms characterizing that malady. When examining into the peculiar nervous degeneration discovered in connection with this disease, we found them, with rare exceptions, uniform in their character and existence, and confined, except in rare instances, to the posterior columns, posterior spinal nerve roots, posterior cornua of the gray substance, and, in a certain proportion of cases, to some of the cranial nerves and sensory ganglia connected therewith. While these changes may somewhat vary in individual cases as regards their extent and precise locality, we have seen that, after all, there is as much regularity in the post mortem appearances here, as in any other organic disease, of whatever name or nature. What, then, are the effects which we would expect to find in a previously healthy subject, in consequence of the organic deterioration above mentioned in the afferent nervous system? To allude fully to all the anatomical

*Dalton's Treatise on Human Physiology, p. 404.

and physiological points bearing on this subject would consume more space than we have to spare, hence only such references will be made as are necessary to illustrate our position.

In his work on human physiology, Dr. Carpenter says: "If it were possible for a human being to come into the world with a brain perfectly prepared to be the instrument of psychical operations, but with all the inlets to ensation closed, we have every reason to believe that the mind would remain dormant, like a seed buried deep in the earth. If this proposition be accepted with regard to our physical nature, how much more aptly must it apply to the functions of relation, one of the chief characteristics of animal life? But it is a fact, too universally recognized among physiologists and metaphysicians to admit of argument here, that our relationship with external objects depends upon impressions received through the medium of the senses. "If," says Mr. Morell,† "we could by any means transport ourselves to the mind of an infant, before the perceptive consciousness is awakened, we should find it in a state of absolute isolation from everything else in the world around it." It is through this dependence upon the guidance of our perceptive faculties, that we explain the disabilities found in those unfortunate individuals born without the possession of certain sensorial endowments. In persons congenitally blind, the face is never turned towards you when they are addressed, but oscillates in a vague and painful manner. Persons born deaf, are also mute; but such individuals are not deprived of the power of speech on account of any non-development or paralysis of the vocal organs; on the contrary, the vocal apparatus is perfectly healthy, but the difficulty lies in a want of power to *combine* the

*American edition, p. 545.
†Philosophy of Religion, p. 7.

various organs of speech in such a manner as to produce articulate sounds, for the mind having been shut off from all impressions through the auditory apparatus, can form no idea of a sound, and is therefore incapable of willing a combination of muscular effort, with the view of producing a result, of which it has no conception. And the same difficulty exists, only in a less degree, even after the power of speech has been established in a perfectly healthy and sound subject, when, from any accident, the sense of hearing has been obliterated; the effect being, to weaken the control of the will over the vocal organs, causing them to act inharmoniously, or in an exaggerated or diminished degree.*

If the facts stated and the explanations offered in regard to the effects produced by the loss of certain of the higher senses be correct, the same reasoning is equally applicable to the impairment of the other senses. With this qualification, however: First, that some of the senses act as guides to the mandates of the will, only in a limited number of movements of a specific character. This is more particularly the case with the senses of smell, taste and hearing, and when either of these are lost, none of the other senses can, by any process of education, be rendered efficient as substitutes therefor. Second, that several of the other senses, especially those of sight, touch, and the muscular, or sense of resistance, differ from the above in this: that they are all more or less concerned as guides to volition in all complex movements, *and are capable, with a certain amount of education of partially substituting the deficiencies of one another.* From this, we infer, that the several special senses of man, such as sight, hearing, taste and smell, together with the sense of touch and muscular sensibility, go to make up a certain group of endowments which minister to the functions of rela-

*Vide Carpenter's Physiology, p. 637.

tion—one of the grand distinguishing characteristics between the animal and vegetable kingdom. For it seems that man is not endowed with his several senses simply to minister to his sensual appetite, but they have a higher and nobler office in enabling him to guide and regulate his movements with a proper regard to external objects, and hence it is, that the Creator, in his wisdom, has withheld from him the power to live, move and have his being, without any sort of reference to the world in which he is placed, by making his movements dependent upon the guiding and controlling influence of his senses, and yet, so arranging it, that one sense may come to the relief of another, in case of its destruction, either by accident or disease, while at the same time, rendering him virtually helpless in spite of his muscular integrity, when all have left him. In short then, we conclude in the language of Dr. Carpenter, that "*it may be asserted with some confidence, that no effort of the will can exert that direct influence on the muscles which our ordinary phraseology, and even the language of scientific reasoners would seem to imply; but, on the other hand, that the will is solely concerned in determining the result; the selection and combination of movements required to bring about this result, not being effected by the will but by some intermediate agency.*"*

What then are the physiological elements entering into any healthy combination of muscular effect? A careful examination of the motor nerves in their course upwards to the brain will reveal the fact that, none of them pass directly to the cerebrum, but *enter* the sensory ganglia below; the same may be said of the sensory nerve fibres. In like manner the sensory ganglia are connected with the superimposed cerebrum by two sets of nerve fibres, (similar to the anterior and posterior roots of the

*Human Physiology, p. 508.
†Op. Cit., p 625.

cord.)† Anatomy, alone, therefore teaches us the intimate relation existing between the seat of the will and the sensorium, for it demonstrates that *no volitional impulse can reach the muscles without first passing through the sensory ganglia.* It also reveals the significant fact, that the sensory and motor nerves, although passing up the cord through distinct channels, meet on common ground in the sensory ganglia, before communicating with the cerebrum. In examining into the physiological elements of motion, it is a well recognized fact that movements may be voluntary or involuntary. The first, of course originate in the cerebrum, the seat of the will. The origin of the second, may be threefold: First, excito-motor—(in the spinal cord.) Second, sensori-reflex, (sensory ganglia.) Third, various emotional or mental states (cerebrum.) From what has been said, it is scarcely necessary to repeat that all voluntary movements (with which we are now concerned) are essentially complex in their nature. And although originating in obedience to an impulse of the will, they may be, and generally are, modified by all the elements entering into an *involuntary* movement; indeed, two of these elements, (excito-motor and sensori-reflex) are absolutely essential to any well-regulated movement. The agency of "guiding sensations" over the muscles, is however, so constant as to be unperceived under ordinary circumstances; and it is only when such agency is withdrawn or any new combination of muscular effort is undertaken that we realize that *"they are the only regulators that can be depended upon for determining the due performance of the volitional mandate."**

Since then the cerebrum alone has no power to coördinate muscular acts—it being simply the originator of the impulse calling them forth, whilst the *execution* of the same depends upon the interposition of a force entirely

*Carpenter's Physiology, p. 703.

automatic in its character, we conclude, that all healthy and well regulated movements depend, anatomically and physiologically, upon a grand automatic arc, composed of an afferent or sensory nerve on one side, and an efferent or motor nerve on the other—each connected with a central ganglionic mass—the whole being in union with, and presided over by the cerebrum.

If the foregoing be correct, the deductions are easily drawn. We may have a functional or organic derangement of the cerebro-spinal system of nerves originating in two distinct departments of it, which, in either case, will result in impairment of the motorial function. If the disease is in the cerebrum, *volition* is paralyzed or deranged; if in the *instrument* of the brain (the automatic arc of which we have spoken), the practical effect (so far as the attainment of an end is concerned), will be the same, no matter which of the three elements composing it are diseased, *for its integrity as a whole will be broken.* But the symptoms may differ widely. If the disease be confined exclusively to the efferent or motor side of this arc the result will be a derangement of the motor *power;* if on the afferent or sensory side, the result will be an impairment of *regulating force;* if in the intermediate ganglion the effect may be the same as in either of the preceding cases, or both, according to circumstances. Muscular movements may be impaired therefore, either directly or indirectly. If the disability be located on the motor side of the automatic apparatus, the impairment of function is *direct.* If on the sensory side, the impairment of function is *indirect.* In the former, there is necessarily a paralysis, a want of power. In the latter, there is no paralysis, no want of power, but simply an inability to appropriate and direct that power in the accomplishment of an end.

How now do the foregoing physiological propositions

comport with the clinical history of progressive locomotor ataxia? We have already seen that this disease may be ushered in with quite a variety of prodromic symptoms, and while some of these are seldom or never wanting, none are of such constant occurrence as to be considered pathognomonic. There is, however, a certain *order* in which the disease advances from its first to its last stage, which is so uniform as to strike even a casual observer. This is a feature of great importance, and deserves to be carefully studied. If time permitted we would dwell at considerable length upon this interesting practical point in the clinical study of this affection, but we will have to confine ourselves to a synopsis of the order, in which the symptoms are stated to have occurred in eight cases reported by Dr. P. V. Bazire, in his appendix, to Trousseau's clinical lecture on the disease. We select these cases, not because they contain any peculiar features suitable to our purpose, but for the reason that they were treated mostly in hospital, where better opportunities were afforded for a correct report of their development and progress.

Case I. Æt. 35—Bricklayer. In March, 1857, attacked with pain of rheumatic character in both knees, especially the *right*, with numbness of toes and fingers, chiefly on right side, and disability to grasp objects easily or button the coat. Fatigue in walking, catching up of the right leg, as if walking on springs. In three months, had diplopia and strabismus. From the beginning, passed urine frequently, with dribbling on great exertion. Pains increase with "numbness," with a sense of "uneasiness" on walking down a plank from scaffolding. Inability to run, walks slowly and cautiously. Constriction about the chest and body. Had to have recourse to sight in guiding his movements. Inability to walk in dark or locate limbs in bed. The paroxysms of pain reached their

maximum in 1861. Was reädmitted to St. George's Hospital in February, 1864, in some respects improved. Tall, spare man; intellect perfect; articulation ditto; hearing good; no ptosis; internal strabismus of left eye; some diplopia; sight good; no amblyopia; pupils contracted; no congestion of conjunctiva; respiration natural; pulse very weak; heart sounds normal; appetite and digestion good; bowels regular; urine healthy; no dribbling; no tenderness over spine; no sense of constriction or wasting of limbs. *Sensibility.*—(*a*) Tactile, obtuse, conduction of impressions to sensorium tardy; (*b*) differences of temperature perceived; (*c*) pricking and pinching acutely felt; (*d*) sensibility to electro-magnetic current obtuse. Power to flex or extend limbs in bed perfect—unable to rise without help; inability to stand with eyes closed or without the aid of a cane; gait peculiar; different from the ordinary shuffling of paraplegia; stands with feet everted and apart; in stepping lifts his foot well off the ground, throws it forward suddenly and brings it down forcibly from heel to toe; the eyes are kept on the limbs; always an excessive and fatiguing exertion of volition power; the upper extremities similarly affected; has great difficulty in undoing a button, but can grasp an object even with eyes closed.

Case II. Æt. 40—Shipwright. Married; has six children, youngest eleven months old. Fourteen years ago had fever on coast of Africa; about the same time had occasional shooting pains in lower limbs—supposed to be rheumatism; six years ago had sunstroke, followed by fever, lasting two or three weeks; shortly after, had a a peculiar affection of lower limbs, ("which could not be called weakness,") that made him reel and stagger; at the same time had numbness of the soles of the feet, with a feeling as if a pad were interposed between the feet and the ground; sight good at that time; no incontinence of

urine; slight shooting pains in limbs, which grew worse until 1862; incontinence of urine came on, with numbness of fingers and inability to undo a button, without the aid of sight; no loss of *power*—can strike as heavy a blow as ever, but with less precision. 1863—worse; nocturnal incontinence of urine; inability to locate limbs in bed, or walk in dark. In 1864 entered Epileptic hospital; healthy in appearance and, in fact, except in particulars above mentioned; tactile sensibility, obtuse and of tardy perception; subjective sensation of cold in the limbs; difference of temperature and pricking perceived; shooting pains from hips to toes, aggravated in damp weather; no loss of power in limbs; walks with difficulty; plants the foot in peculiar manner, heel coming down forcibly; unable to stand with eyes closed, even with the aid of vision cannot walk steadily, has to lean on a stick or neighboring objects; no reflex movements in limbs, by tickling; electro-contractility perfect; sense of contraction obtuse; sexual power not diminished, has frequent erections; amaurosis coming on with aggravation of all symptoms, almost helpless.

Case 3. Æt. 43—Coachjoiner. In May, 1862, noticed that he could not stand without support in washing his face; did not detect any impairment of sensibility at that time; after three months had shooting pains in the lower limbs, very severe and increased by slightest touch, with sense of constriction about the body. About this time numbness came on with unsteadiness of gait, compelling him to look at his legs when walking. In 1863 incontinence of urine supervened, with impotency. On examination in 1864 was found thin, pale and illy nourished; sight good, exeept muscæ volitantes; pupils contracted, but dilatable by atropia; no redness of conjunctiva; sensibility and mobility in upper limbs normal. In lower limbs can distinguish differences of temperature, pinching

and pricking, but tactile sensibility is very obtuse; unable to locate limbs without looking at them; they are amenable to volition, but very imperfectly without the aid of sight; electro-muscular contractility perfect, but scarcely felt in either leg; both perfect in arms. When lying down evinces no loss of power in lower limbs; but on attempting to rise they appear very feeble; cannot walk without a cane, and then only with aid of sight; steps in peculiar manner; unable to stand with eyes closed. In six months, the upper extremities become involved.

Case 4. Æt. 41. Present ailment of eight or nine years standing, and came on like *tooth ache*, pains darting down the posterior aspect of the lower limbs, together with lumbar pains. These symptoms appeared at intervals for four or five years, when the limbs began to feel heavy on descending a hill, together with some unsteadiness of gait and a feeling as if a pad of india rubber lay between the feet and the ground. From this time the symptoms were developed in the following order: In the beginning of 1859, had ptosis of right eye, with strabismus; in four months had contraction of the pupil, worse during paroxysms of pain; slight improvement for a time, followed by exacerbation of all symptoms, with partial paralysis of bladder; inability to walk in dark; shooting pains in upper extremities, especially along ulnar side of forearms. On entering the Epileptic hospital, in June, 1864, emotional excitability was found hightened; frequent inclination to shed tears; tinnitus aurium in left side; ptosis of left eye; right pupil much contracted, left less so; no injection of conjunctiva; vision in right eye good; diplopia in left; slight external strabismus of left eye; during paroxysms of pain, left side of face and forehead moist with perspiration, right side dry; some incontinence of urine; has long since noticed diminution of sexual power; has now no erections; paroxysms of pain

in lower limbs keep up, accompanied with a sense of contraction and spasmodic jerks; sensibility to temperature and pricking perfect; tactile sense obtuse, worse on outside of limbs, its conduction tardy; voluntary movements resemble chorea; steps as in the preceding cases; obliged to use a stick in walking, and falls in the dark; muscular strength very good; cannot locate limbs in bed with eyes shut; electro-contractility perfect, but felt obtusely; pains in upper extremities, worse in left with some awkardness in movements of fingers; tactile sensibility not apparently diminished; differences of temperature and pricking perceived; power of grasping normal. September 5th—improvement in sense of touch and many other respects; mobility greatly improved.

Case 5. Æt. 32—Printer. In 1856 or '57, had pains like "tooth ache" attacking different portions of legs, aggravated by touch and uncontrolled by topical applications. In 1862 complained of numbness of left ring and little fingers creeping up towards the elbow; fatigue in walking and unsteadiness of gait; incontinence of urine. In December, 1863, discovered accidentally that he could not walk in the dark on getting up out of bed; about the same time, numbness appeared in the soles of the feet, with a feeling like a pad was interposed between them and the ground. This grew worse, together with the disorder of locomotion; sexual power died out by degrees. June, 1864—nothing abnormal about right arm or hand, except slight sense of numbness in the tips of fingers; can tell at once where he is touched or scratched; whole of left forearm and hand numb and appear weak; not so in reality, however, for he can grasp as firmly with the left as with the right hand, although he cannot guide or regulate its movements; cannot distinguish differences of weight with left hand. Mobility of lower limbs much impaired, especially when eyes are closed; tactile sensibility,

obtuse and tardy of conduction; differences of temperature and pricking apparently normal; electro muscular contractility perfect; sense of contraction very difficult. September 10—much worse; numbness of right arm and hand greatly increased and mobility diminished; pains better.

Case 6. Æt. 32—Cabman. In March, 1864, noticed an inability to walk or use his arm with precision, especially in the dark; complained at the same time of a sense of cold all over; a tingling sensation in tips of toes and fingers, with a numbness and sense of weight in limbs, followed in five weeks by diplopia; some contraction of right pupil; no pain. June, 1864—upper extremities have a sense of cold in them, (not real); complains of some tingling and numbness in fingers; the compasses show no diminution of tactile sense; sensibility to pain and differences of temperature normal; electro-galvanic contractility and sensibility alike fair; no loss of power; coördination still deficient; lower limbs in same condition as to sensibility as the upper; plants the heel as in the preceding cases; inability to stand with eyes closed; tickling soles of feet produces no contractions; in six months bladder and sexual power become weakened; nocturnal emissions unaccompanied by sensations; terrible shooting pains about knees. July, 1865—much worse, so far as mobility is concerned; still complains of numbness in limbs; cannot locate his limbs under the bed clothes, and yet, when tactile sensibility was tested by the æsthesiometer, it was found unimpaired.

Case 7. Æt. 43—Bootmaker. First complained of a sense of coldness about the occiput; slight amaurosis of left eye; was troubled with black spots and balls of fire before the field of vision in that eye; a tendency to fainting. In September, 1863, had shooting pains in lower limbs; some weakness of bladder; three months later,

had numbness of ulnar side of forearms and hands, followed in three months with ptosis of left eye with diplopia, heaviness of legs and inability to run; says at that time he could feel the ground and even walk in the dark. In three months later became weaker and gait tottering. Sensibility in the lower limbs seems to respond to the usual tests; is unable, however, to locate limbs in bed with eyes closed; no reflex movements on tickling the soles of the feet; flexion and extension, although of normal power, are irregular with the eyes closed; rises from a chair with great difficulty and falls in the dark; walk and step characteristic. 1865—upper limbs similarly involved.

Case 8. (Female) Æt. 38—Mantlemaker. Attack commenced in 1860 with shooting pains in legs and numbness of right foot and leg, with a tendency to fall. These symptoms lasted without accession for eighteen months, recurring at intervals with spasmodic jerks, after which numbness increased, involving both feet and legs; was obliged to watch the right foot, especially in walking, felt as though it were planted on sponges; left foot similarly involved; walking difficult; leaned on a stick; would fall in the dark. Gradually grew worse, until walking was impossible without aid. In 1865, complained of numbness and pain in right arm and hand; amaurosis. Left arm healthy as to sensation and mobility; sense of temperature good in both; right arm extremely deficient in coördinating power; muscular strength good in both arms. Differences in weight readily detected in the left hand; not so in right. Sensibility of all kinds very deficient in lower limbs, except perhaps that of temperature.

It may be fairly assumed that the above eight cases, so elaborately reported by the eminent translator of Trousseau, are typical of progressive locomotor ataxia in gen-

eral. Whatever is said of them, therefore, may with slight modifications be applied to all other cases of the disease. Let us then carefully sift them in all their bearings; first in the aggregate and next individually, and see if we can find in their symptomatology any practical lesson. The following summary will best indicate the order, in which the several symptoms first became manifest to the patients themselves. It will be remembered, that the sense of these symptoms appeared separately, being isolated by an interval of several months or years from other symptoms; while, on the other hand, many of them occurred simultaneously. As far as such cotemporaneous appearance is positively noted in the text, they are grouped together in the following summary:

Case 1. Pain; numbness of toes and fingers; incoördination of movements in feet and hands; sense of constriction; incontinence of urine; strabismus; diplopia.

Case 2. Pain; numbness of feet; incoördination of movements; incontinence of urine; numbness of fingers; incoördination of their movements; amaurosis.

Case 3. Inability to balance body with eyes shut; pain; sense of constriction; numbness of lower limbs; unsteadiness of gait; incontinence of urine; muscæ volitantes; contraction of pupils; numbness of fingers; [no mention made of mobility.]

Case 4. Pain; heaviness of limbs; feeling of india rubber under feet; unsteadiness of gait; ptosis, with strabismus; contraction of pupil; impotence; numbness of hand and fingers; incoördination of movements.

Case 5. Pain; numbness of left arm and fingers; incoördination of their mevements; sense of heaviness and impairment of motion in lower limbs; numbness of soles of feet; inability to stand in dark; diplopia, with contracted pupil; weakness of bladder; impotence.

Case 6. Numbness and tingling in fingers and toes;

heaviness of limbs; incoördination of their movements; diplopia and contraction of the pupil; weakness of bladder; partial impotence; slight pain down the back.

Case 7. Sense of coldness about occiput; partial amaurosis; pain; weakness of bladder; transient numbness of left arm and fingers; ptosis; heaviness of legs; inability to run; partial impotence; inability to locate limbs in bed; incoördination of their movements.

Case 8. Pain; numbness in feet and legs; tendency to fall; sense of sponges under the feet; incoördination of their movements; numbness of right arm and hand; incoördination of their movements; pain; amaurosis.

The first most noticable feature in the foregoing text is that seven of the cases were males. No. 5, shooting pains in the limbs was the first symptom; in all of these, a feeling of numbness followed in the *same limbs* which had been affected with pain. In two of the other three cases, pain was the second symptom complained of; while in the remaining case pain was not a prominent feature, but existed slightly at times down the region of the back. But by far the most important feature in these cases consists in the fact that some form of sensory disorder constituted an early and prominent symptom in all, and that the incoördination of movements, (the very essence of the disease according to Duchenne), never preceded the former, but, in all eight cases, followed immediately after. In six out of seven of the male patients, there was marked diminution of the sexual power, and in all seven of the males the bladder was involved. The female escaped any cystic trouble. In all, except one case, the eye or its appendages were affected to a greater or less extent.

But it may be said by those who fail to recognize the connection between sensory impairment and the disordered movements of ataxia, that case No. 8 disproves, rather than sustains our views, for in this instance, the

first symptom that arrested the attention of the patient, was an inability to balance himself when washing his face; the act of closing his eyes made him reel and stagger. He does not recollect that any impairment of the senses existed at that time; he does not mention any difficulty in walking and says that tactile sensibility was perfect. Does it follow, however, from this man's own statement unaided by any test whatever, that there was in reality no impairment of the sensory functions? We think not; for while he was possibly correct in declaring the tactile sense perfect, he yet said enough to indicate conclusively that the muscular sense was obtuse. The fact that the mind does not take cognizance of this sense under ordinary circumstances, that it performs its functions silently and unnoticed in every motorial act of our lives, and that its existence can only be inferred from the disorders occurring when it is absent or impaired, would seem to be no proof of its non-existence, as urged by Trousseau* in an elaborate argument. But we are not restricted to negative evidence alone on this point. We have already seen that none of the sensory nerves centre directly in the cerebrum, nor are all of the impressions conveyed along them, taken cognizance of by that organ. The *muscular sense* forms no exception in this respect. In health it is ever vigilantly and actively, but yet latently, (so to speak), performing its part in the motorial mech anism.

This "muscular power" was first distinctly recognized and explained by Sir Charles Bell in his paper on the "Nervous Circle." He says, "between the brain and the muscles there is a circle of nerves; one nerve conveys the influence from the brain to the muscle, another gives the sense of the condition of the muscle to the brain. If the circle be broken by the division of the motor nerve, mo-

*Lectures on Clinical Medicine, pp. 159-166.

tion ceases; if it be broken by the division of the other nerve, there is no longer a sense of the condition of the muscle, and therefore no regulation of its activity."* In illustration of this proposition, Sir Charles cites the celebrated case of Dr. Ley, in which there was an inability for sustained muscular effort, when the eyes were closed or the attention withdrawn. In this case there was not only incoördination of movements, but an incapacity to hold a child in the arms, for the reason that the sense of "*muscular activity*" was not conveyed to the sensorium. In commenting upon this case, that eminent pioneer in pathological physiology, says: "*It is by this sense of the condition of muscular action that we are enabled to regulate the whole muscular system, and balance the body.*"† This is a physiological proposition which is now almost universally accepted by authorities on that subject. Mr. W. B. Carpenter thus alludes to the part played by the muscular sense in promoting healthy motion, and the possibility of its partial substitution by other senses. He says: "In the majority of cases the guiding or controlling sensation is derived from the muscles themselves, of whose condition we are rendered cognizant by the sensory nerves with which they are furnished; but there are certain cases in which it is ordinarily derived from one of the special senses, and in which the '*muscular sense*' can only imperfectly supply the deficiency of such guidance; whilst again, if the muscular sense be deficient, one of the special senses may supply the requisite information. The proof of this necessity, is furnished by the *entire impossibility of making or sustaining voluntary efforts, without a guiding sensation of some kind.* Thus in complete anæsthesia of the lower extremities, without the loss of muscular power, the pa-

*Nervous System of the Human Body, p. 129.
†Op. Cit., p. 221.

tient is as completely unable to walk, as if the motor nerves had been paralyzed, unless the deficient sensorial guidance be replaced by some other; and in similar affections of the upper extremities, there is a like inability to raise the limbs or to sustain a weight. But in such cases, the deficiency of the 'muscular sense' *may be made* good by the *visual;* thus the patient who cannot feel either the contact of his foot on the ground or the effort he is making, can manage to stand and walk by *looking* at his limbs; and the woman who cannot feel the pressure of her child upon her arms, can sustain it so long as she keeps her eyes fixed upon it, but no longer; the muscles ceasing to contract and the limb dropping powerless, the moment the eyes are withdrawn from it."* Let us illustrate this by a familiar example: We all know that a healthy man can carry an object of moderate weight in one hand and walk with it in an upright position without any continued effort of the will; his movements with the weight, as without it, becoming secondarily automatic. The body in this case, notwithstanding the fact that the muscles of the two sides are unequally taxed, maintains its equilibrium, and since this is done without any effort of volition, it is clear that the necessity for a greater effort of the muscles on one side of the body than of the corresponding muscles on the other, must be conveyed through some sensory channel to the sensorium; this is the *muscular sense.* But again, suppose the weight is so increased as to tax the individual's strength to its utmost; here we find something more than mere automatic forces entering into his locomotion; the *necessity* for a continuous effort of the will is communicated through the muscular senses to the aid of the automatic apparatus, and by their continued and combined effort, the body is kept erect. The blunting of the *muscular sense* in this case, would in-

*Human Physiology, p. 805.

evitably result in the abolition of bodily equilibrium, although the person so affected would be totally incompetent to locate or define his loss, *except in the result.* This is precisely the state of things in case No. 3, of the foregoing series; here the patient found himself gradually unable to bend over in the customary act of washing his face. In health, the *muscular sense* had enabled him to maintain a stooping attitude automatically, but no sooner was this sense interrupted than its *effect* was made manifest in an inability to steady himself. But we are not dependent, in the case under consideration, upon a simple inference as to the impairment of the muscular sense, as its progress and development will attest, for we find the patient soon complaining of characteristic pains in the limbs, followed by incoördination of movements and other disorders; we find, moreover, in this case, that as soon as the muscles were subjected to the electro-galvanic test, the contractile power was found perfect, while their *sense of contraction was very much below par;* a circumstance which Duchenne* considers inseparable from an impairment of the muscular sense. And just here, it should be noted that the above test exhibited the same results in six of the eight cases reported by Dr. Bazine. In one of the remaining, (sixth) this point is but distinctly noted, while in the other, the muscular sense is said to have been intact. But there seems to be some singular incongruities in the report of this case, (seventh), as well as the sixth. The reporter says: "Tactile sense tested with the æsthesiometer is also found to be normal, and there is no retardation in the conduction of impressions to the sensorium. *He does not, however, know the position of his limbs, after they have been shifted about when his eyes are closed, until he begins to contract the muscles of the*

*Electrisation Localisee, p. 392.

limbs."* This state of things does not appear compatible.

In view of the foregoing considerations, it would seem that it may be safely asserted, that all cases of the genuine progressive locomotor ataxia, of Duchenne, there is *some sensory impairment invariably preceding the ataxic symptoms, and that these manifestations advance* PARI PASSU *with sensory decadence.* For even Trousseau, who, as already intimated, questions the existence of the "*muscular sense*" of Bell, or the "sense of muscular activity" of Gerdy, does not pretend to deny the fact, that such impressions of muscular activity as we have referred to the *muscular sense*, are taken cognizance of by the sensorium, and that they play an important part in the muscular acts. The difference is, that instead of attributing such impressions to a distinct sense, as Bell and Gerdy have done, he refers them to a complex sensorial combination, the existence of which is no less hypothetical than the former. Practically, it is the same, however, no matter what the nature or source of the connection between the higher nervous centres and the muscles, for in either case, an interruption to the conduction of the sense of activity from the muscles to the brain, must result in disordered mobility. This point is well illustrated by Axenfeld—he says: "From all the points of the organism there constantly ascends to the nervous centres, an infinity of sensitive currents which luckily for us, are not noticed by the encephalon, but the *interruptions* or *irregularities* of which strike us forcibly as soon as they occur."†

We think, in view of what has been said, that case three cannot fairly be claimed as an exception to the rule that *impairment of sensibility always precedes and ushers*

*See Translator's Appendix to Trousseau's Clinical Lectures, case 7, p. 195.

†Archiv. Generales de Medicine, Aout et October, 1863, p. 486.

in incoördination of motion. And it may be possible that a rigid scrutiny would dispel much of the doubt hanging around the comparatively few similar cases on record; we say comparatively few, because the variety of such cases is admitted on all sides. Even Trousseau who almost entirely ignores sensory impairment, as a causative agent in the muscular disorder of locomotor ataxia, admits that the absense of this symptom is "*very rare;*" he says: "Since my attention has been called to progressive locomotor ataxia, I have seen more than fifty cases of the disease, and in three only have I seen it consist of a mere incoördination."*

It must be admitted, however, that those who claim that progressive locomotor ataxia is simply a functional affection, have placed many very serious obstacles in the way of a successful refutation of their positions. These difficulties are rather negative than positive; they consist, first, in the fact that touching many of the points involved, physiology has not "said its last word;" and, secondly, in the vagueness with which many of the so-called exceptional cases are recorded. For example, Trousseau alludes to three cases in which there was "no loss of sensibility," while, at the same time, he tells us that he ignores the existence of a *muscular sense*, and dissents entirely from the conclusions of O'Landry in his essay concerning "the paralysis of the sense of muscular activity." We have already noted the peculiar views of Axenfeld on this subject. M. Duchenne in addition to the "muscular sense" of Bell, believes in an "*aptitude matrice indépendante de la rue,*" while Radcliffe reduces nerve force to the common laws of electro-galvanism, and refers all functional disorders to disturbances in the electrical relations of "*peripolar molecules*"† Thus

*Vide Clinical Medicine, p. 146.

†Lectures on Epilepsy, Pain, Paralysis, &c., pp. 38-43.

it will be found that nearly all of those who believe in the functional origin of progressive locomotor ataxia, entertain peculiar views of nervous physiology, at variance with the generally received teachings on this subject, and are consequently unassailable, except in detail. To discuss this interesting topic, in all its bearings, would be manifestly out of place in a paper like this, for it would involve an analysis of all the reported cases, and an examination of all the theories of each individual ar rayed on the other side.

The following are the positions most commonly assumed by the Trousseau school of pathologists on this subject:

First—That there is no such thing as a distinct "*muscular sense*," and hence it must be left out of account in the clinical investigation of progressive locomotor ataxia.

Second—That progressive locomotor ataxia may occur without any impairment of sensibility.

Third—That impairment of sensibility may exist without ataxy.

Fourth—That progressive locomotor ataxy is not invariably accompanied by structural lesions.

Fifth—That when organic changes do occur, they are results of, and not the cause of the progressive locomotor ataxy.

The first proposition regarding the *muscular sense*, has been already sufficiently commented upon; for fuller information on this point, reference is made to standard works on physiology. The second and third propositions are certainly important and deserve more attention than can be here given to them, as their thorough discussion would consume a volume. It may readily be conceived that a simple ataxy, *i. e.*, an incoördination of muscular movements may exist without loss of sensibility; in discussing the physiological principles bearing on this ques-

tion it was shown distinctly that such a state of things, might exist. Chorea is a familiar illustration of this fact. The same may be said of certain other nervous disorders. But the history and progress of chorea and progressive locomotor ataxia are so very different, that no argument is necessary to convince the most casual observer that the latter is altogether distinct in its nature from the former. Attention has already been directed to several sources of error in the collection of evidence sustaining the *functional side* of this question. It was shown in case three, reported by Dr. Bazine, that the first symptom complained of, (reeling and staggering while washing the face), pointed conclusively to a partial paralysis of the *muscular sense;* here the impairment of sensibility was so slight as to manifest itself only when the body was thrown out of the erect posture, and not even sufficient to hinder the patient in locomotion. Nor is this remarkable, for it a notorious fact that ataxic individuals can maintain their equilibrium more readily when walking than standing; nay, we are told that they frequently move at a "half run" to prevent falling; this is in accordance with physical laws. It has been seen, too, that an impairment, (especially if it be but partial,) of the *muscular sense* can only be detected by the patient himself *in its results;* but not only is this the case with the *muscular sense;* there is reason to believe that some of the other senses, such as that of touch, tickling, etc., may be involved without attracting the notice of the patient; for we hear of patients being surprised to find themselves suddenly incapable of performing some unaccustomed act upon rising from bed in the dark, and upon applying to a physician, sensibility is, for the first time, discovered to be obtuse. The late Dr. Graves calls particular attention to this point. In speaking of a certain form of chronic and insidious paraplegia, he says: "With respect to sen-

sation, it appears to be affected as well as motion. In the slow and chronic form of this species of paraplegia, it does not attract the attention of the patient so quickly as the derangement of muscular power; it is generally some time before he notices any diminution of sensation and then accidentally."* Thus it would seem that the mere *ipse dixit* of the patient is not to be relied on in this matter. There is reason to believe, also, as has already been intimated, that some of the tests of sensibility, especially that of touch by the *compasses*, are not altogether satisfactory. For an example has been cited, (and there are many others like it,) in which the two points of the compasses were said to have been recognized within normal limits, while, at the same time, the patient was unable to locate his limbs in bed; two conditions seemingly incompatible, for it cannot be denied that the *tactile sense* is capable of conveying this information to the encephalon even to the exclusion of all others. This error would seem to be referable to the fact that the *sense of pain* occasioned by pricking the skin with a sharp point, is, as was first pointed out by M. Beau, entirely distinct from common tactile sensibility, and which, as the history of such cases demonstrates, is often normal to the last. In short, then, it is altogether probable that a close scrutiny of the four exceptional cases, in which genuine locomotor ataxia is claimed to exist, without any impairment of sensibility will reveal a contrary state of facts, and, even though none of the other senses are deranged in these instances, we must yet accept the conclusion of Bourdon, and ascribe the motor disorder to "*the loss of the sense of muscular activity.*"†

In regard to the third proposition, viz: "*That impair-*

*Vide "Clinical Lectures on the Practice of Medicine," p. 427.
†Arch. Gen., April, 1862, p. 388.

ment of sensibility may occur without ataxy," but little need be said. The cases cited in illustration of this position are so exceedingly rare, and vaguely reported, as to impair their value; especially is this so, when it is remembered that they are in direct conflict with physiological principles well established and recognized from the time of Sir Charles Bell, to the latest experiment of the present day. Much the larger class of physiologists believe that all well ordered movements depend on the integrity of the sensory system. M. Duchenne, as has been stated, recognizes a power of will over muscle, independent of any sensation whatever; though, at the same time, he admits the necessity of sensation *in all combined movements*. Without presuming to enter into this question here, it may be briefly stated that the anatomical relations of the sensory and motor nerves, with the brain, are such as to lend some plausibility to Duchenne's views. For as it is clear that an afferent nerve may convey a sensory impression to the brain without affecting the efferent or motor nerves, it would seem reasonable that a simple motory impulse might be conveyed along the latter, independently of the former. The experiments of M. Bernard* may possibly throw some light on this subject, for he has demonstrated, by the use of certain toxic agents—first, that irritability of the muscles may be destroyed, whilst that of the nerves remains unaltered. Second, that motor and sensitive nerves may be paralyzed independently of each other. But whatever may be said of Duchenne's views on this subject, there is every thing in the concurrent testimony of physiologists to warrant the conclusion, that *no properly harmonized and combined muscular effort, is possible, without certain "guiding sensations."*

*"Lecons Sur les Effets des Substances Toxiques et Medicamenteuses," Paris, 1857, chaps. 22-4.

The fourth proposition,—"*That progressive locomotor ataxia is not invariablg accompanied with structural lesions,*" if true, would assuredly decide this whole discussion. Its consideration should be approached, therefore, with just candor, and the utmost caution; and in order to arrive at a satisfactory conclusion, every point bearing upon the question must be carefully weighed. But, as we have neither the data nor the time for a full analysis of special cases, wherever autopsies have revealed no anatomical changes, we must content ourselves with a few remarks. Unfortunately, but few post mortems have yet been made in this disease, and the value of the small number of which we have any report, must, of course depend—first, upon the correctness of the diagnosis, and, secondly, upon the thoroughness of the investigation—two requisites open to abundant error. We have already alluded sufficiently to the former, so that it is needless to do more here than to call attention to the fact that, according to Trousseau, many very eminent observers have been deceived in the diagnosis of ataxy, so closely does it resemble many of the chronic forms of paraplegia and other nervous disorders. In regard to post mortem examinations in these cases; it has been well observed by Prof. Stillè,* of Philadelphia, that no statement pronouncing the spinal cord healthy should be received, unless a careful microscopic examination has been made, and that by an *expert.*

Attention has been directed to the singular unanimity with which pathologists, of all shades of opinion have noted anatomical changes after death from this disease. The older writers, Romberg, Cruvielhier, Hufeland, Steinthat, Hanly, etc., bear substantially the same testimony with those of more recent date. Even Duchenne has been compelled to abandon opinions based on his first

*American Jour. Med. Sciences, January, 1864, p. 168.

autopsy, so imperfectly conducted. The testimony of Dr. J. L. Clarke, to the invariability of organic lesions, has already been adduced; also, that of Bourdon, in thirteen post mortems; to this Friedreick adds the support of his valuable researches, and concludes by defining the disease to be anatomically "a chronic inflammatory process, resulting in the atrophy of the nerve elements, and which, being confined to the posterior columns of the spinal cord, begins in the lumbar region and gradually extends thence both upwards and downwards. With this alteration is associated a spinal meningitis affecting the posterior force of the cord and proportioned in its degree to that of the alteration of the cord itself."* Althous looks upon the disease as essentially a "wasting of the posterior columns of the cord."† Dr. Paul Topinard, who has probably studied this affection more diligently than any other physician, gives the following as the result of his investigations, he says: "The primary cause which engenders progressive locomotor ataxia operates upon the nervous system with a preference for the medulla, just as calcareous degeneration affects the whole of the vascular system, with a preference for the valves of the heart. In making progressive locomotor ataxia a disease of the cord, we imitate those physicians, who, in the latter instance, recognize mainly an affection of the heart."‡ Without citing any other foreign authorities, we will simply remark that the opinions generally prevailing in this country are in keeping with the foregoing. Dr. Wood§ attributes to the disease an organic origin, which, from the post mortem revelations, he refers to an early inflammatory process, resembling myelitis. Dr. Austin Flint

*Virchows Archiv., vols. XXVI and XXVII, 1863.
†Lancet, Dec. 30. 1865
‡Civrieux Prize Essay for 1864.
§Practice of Medicine, vol. II, p. 933, (late edition.)

considers it more rational to attribute the disorder of function to the anatomical changes;"* an opinion in which DaCosta† fully concurs.

But there are other considerations militating against the idea that progressive locomotor ataxia is merely one of the *neuroses*. There is much in the way of circumstantial evidence to be gleaned from the general history and progress of the disease; the fact that out of the large number of cases which have been reported and the host of remedies employed, there exists, according to Topinard, "*no instance of recovery from an unquestionable progressive locomotor ataxia;*" whereas, in chorea, functional paraplegia, and, in fact, all of the well established neuroses—death, is exceptional. Then, according to Bazine, there was only one female in eight cases; that of all Dnchenne's patients, only four belonged to that sex; that Trousseau only saw three in upwards of fifty cases; Carrè, eighteen in sixty; Eisenmann, twenty in seventy; Topinard, thirty-three in one hundred and fourteen; and other observers in same proportion, while the simple neuroses are well known to predominate greatly in the female sex, are considerations of no small moment in weighing this question. Another consideration not to be lost sight of, is that progressive locomotor ataxia generally occurs after the age of thirty, while the nervous system is strong and vigorous, while the *neuroses* are most common *under* thirty, when the nervous system possesses less tone and greater impressibility. The frequent premonitory pains shooting at intervals through the limbs has already been alluded to; that these pains are present in the large majority of cases is now fully admitted; and although erratic, are yet amenable to certain rules after confined to one limb, and those portions of it supplied

*Practice of Medicine, p. 651.

†Medical Diagnosis, (second edition,) p. 138.

from the same nervous source. These, and other indications, enable us to predict, with tolerable certainty, the parts first attacked with numbness and impairment of sensibility; this rule obtains, not only in the first onset of the complaint, (which is usually in the lower limbs) but marks its progress from the lower to the upper extremities. There is much significence in the fact, also, that the bladder is, with the rarest exceptions, affected early in the disease, while the autopsic investigations always reveal, in such cases, the progress of degeneration in that portion of the cord furnishing the nervous supply to the genito-urinary organs.

Whilst it is true, then, that no one of the symptoms of progressive locomotor ataxia, (not even the incoördination of movements) is sufficient to convey any positive information touching its nature and pathology, we maintain that, taken as a group, the time and order of their appearance, their relations one to another, their gradual exacerbation and progress, their selection of the male sex; their permanent immobility by medicine or hygiene, and finally their universal result in death, they point to something more than a mere functional disorder.

The fifth proposition—"That when organic changes do occur they are the result of, and not the cause of progressive locomotor ataxa"—has for its advocates, among others, the great name of Trousseau,* who, however, supports his position on entirely hypothetical grounds, which, although ingeniously argued, seems to lack even satisfactory negative testimony in its favor. Indeed, the question whether or not prolonged functional suspension in a nerve is capable of producing organic deterioration, is a matter environed by so many difficulties as to remain as yet *sub judice*. That a functional derangement may precede, and by its continuance alter the circulation and

* Clinical Medicine, p. 178.

nutrition of certain nervous structures can, however, be easily imagined. On this point Mr. C. Hansfield Jones* makes the following judicious remarks: he says, "It appears to me a very important question in regard to such states as the above, whether what was originally functional may not, by long continuance, pass into actual organic disease. Obviously it must be almost impossible to ascertain this certainly; analogies might be adduced both for and against its occurrence. I think the conversion of the one state into the other by no means impossible, and I feel assured that no time should ever be lost in adopting effectual treatment for the restoration of functional power. The experience of physicians in what is termed infantile paralysis is strongly to the same effect;

* * * * * * *yet I think the absence of signs of inflammation in the cord or brain, or their membranes, the existence of more or less debility or disorder of health, the non-progressive character of the disease and especially the 'juvantia,' will not leave us long in doubt whether we have to deal with a paresis or any organic affection.*"

Trousseau argues that the characteristic atrophy and degeneration of the posterior columns of the cord, "is only a consequence of the pathological evolution of the cellular element, which, by developing itself, has crushed the nerve elements contained within its areolæ; and this abnormal development of the cellular tissue is itself dependent on the increased vascularity of the tissues." He considers these congestive phenomena identical in character with those occurring in Grave's disease, hysteria, asthma, etc.; and that they belong to the same category with those vascular manifestations attending a division of the sympathetic. But, while admitting that there is an undue development of the "cellular element," it is difficult, if not impossible, to connect these changes with dis-

*See work on Functional Nervous Disorders, p. 92.

turbances in the sympathetic nerves in every instance; for, while the investigations of M. M. Vaisin and Donnezan reveal lesions of the cervical ganglia, in certain cases, with symptoms similar to those witnessed by Bernard and Brown Séquard, after section of the cervical sympathetic, there is yet wanting that uniformity in the appearance of the eye and face of patients generally, to render their discoveries in a particular case of much value; for a careful examination of the case published by Donnezan* will show that it is exceptional in many particulars, especially in that train of symptoms indicating disease of the sympathetic; moreover, in this case the ataxy was clearly established in every essential particular before symptoms implicating the cervical sympathetic manifested themselves, instead of being the first to usher in the disease (which would seem to be essential, according to Trousseau's theory,) they were, in reality, the last to manifest themselves. While, then, the chemosis, conjunctival swelling, redness and ulceration of the face seem to have pointed correctly to disease of the sympathetic in this instance, there is more reason, after comparing the history of this case with others, to conclude that the cervical ganglia became secondarily implicated than otherwise. It would seem, therefore, that with our present knowledge on the subject, Donnezan's case possesses but little clinical value in its general bearing upon progressive locomotor ataxia.

It will be observed that Trousseau rejects the conclusion, that the thickening and congestion of the membranes of the cord posteriorly and the undue development of the connective tissue in that portion of the organ is due to a chronic local imflammatory process, on the ground that it is difficult to conceive of an inflammation

*Gazette Hebdom de Med. et de Chir., Paris, 1864, No. 19, p 309.

confined exclusively to one-half of the cord. That these pathological changes should select the posterior aspect of the cord is undoubtedly peculiar; but the misfortune is, that this theory in no way obviates this difficulty; the partiality of the congestive phenomena remains still unexplained, for, according to Brown Séquard*, the vital properties of all the tissues *within range* of the sympathetic are heightened under the hyperæmic condition incident to its division; and, if this be true, why should the vital changes be so circumscribed (as they are found to be in ataxy), when we remember the free anastomosis of the blood vessels supplying the cord and its membranes? Nor is the theory of Trousseau much strengthened by the parallel drawn between the hyperæmia, found in progressive locomotor ataxia, and that state of congestion said to accompany such functional affections as hysteria and asthma, for, in the first place, there is no evidence that these neuroses are accompanied by any other than a transitory and general congestion of the cord and its surroundings; the cases in which such disorders result in structural change being rare and exceptional, whereas the contrary is well known to obtain in progressive locomotor ataxia. We have already directed attention sufficiently to the marked contrast in the *result* of therapeutics and hygiene, between the former class of diseases and the latter affection. Unfortunately, but few post mortems have been made during the earlier progress of the disease. M. M. Charcot and Bouchard have reported a case† which, although of eleven years' standing, had not developed itself beyond the characteristic shooting pains of commencing ataxia, (there being no impairment of sensibility or incoördination); in this case, the arachnoid and pia-mater were sprinkled over with meningitic

*Physiology of the Central Nervous System, p. 141.
†Gazette Medicale, IX, 1868.

deposits; the posterior columns showing nothing to the naked eye exeept a certain grayish transparency, the nerve fibres under the microscope still appeared sound. This example is an important one, inasmuch as it throws some light upon the mode of lesional developments, while it indicates the relationship existing between the progress of anatomical changes and the occurrence of the several symptoms. It may also furnish a key to the varying and even opposite condition of the sexual functions as noted by Trousseau and others; the irritation and heightened action of the nerves ministering to the sexual sense corresponding with the earlier vital manifestations in that part of the medulla, receiving those special nerves, (which as yet remain intact) and during which period, the sexual capacity is abnormally increased, and spermatorrhœa frequent, while their subsequent atrophy and degeneration usher in that state of impotence so common during the latter stages of the disease.

In conclusion, it may be stated, that the symptomatology and autopsic revelations in progressive locomotor ataxia all tend to indicate that it is in its essentiality an organic disease, seemingly dependent upon a special *diathesis*, which selects for its local development certain portions of the nervous system, of which the *afferent* nerve fibres are almost exclusively affected; and that being *ab initio* organic in its character, the name progressive locomotor ataxia can be accepted only in so far, as it has reference to its symptoms, and should be replaced by some other, founded on its pathological anatomy; for, while various traumatic lesions, special forms of paraplegia, and certain toxæmic conditions*, are capable of inducing locomor ataxy (which in some cases may even be progressive), the genuine disease, the true "*entity*" of

* See case of locomotor ataxia induced by inhalation of phosphureted hydrogen. Reported by Brenner, St. Petersburg Med. Ztschrft, VIII, p. 245.

which we speak, has a *specific lesion*—a uniform progress, and, with present therapeutics, a FIXED TERMINATION.

ART. II.—THE OPERATION OF PARACENTESIS THORACIS, WITH THE OPINION OF THE PROFESSION IN REGARD TO ITS PRACTICABLE UTILITY AS A CURATIVE MEANS. By WM. M. FUQUA, M. D., Richmond, Va.

This operation dates back to the remotest period. Fabulous history tells us that it owes its origin to the despair of a certain Phales or Jason, who, seeking death in the midst of battle, received a thrust with a lance between the ribs and was thus cured of an empyæma, when he had applied in vain to all the physicians and surgeons of his day. In Greece, Galen tells us that it was performed by thrusting a red hot iron through the parietes of the thorax. In the time of Hippocrates, one of the last intercostal spaces was selected for perforation. At a period still later, a rib was perforated with a trephine The Arabians seem to have performed this operation in the same manner as the Greeks and Romans. Paulus Ægineta proposed cauterization of the thorax as a substitute for paracentesis. This plan, however, was formerly rejected by Aly Abbas.

Dr. Elliottson, of London, states that abscess of the lungs is of extremely rare occurrence, he having seen only two cases resulting from inflammation of that organ. This opinion is corroborated by the experience of Dr. Thomas Watson and Broussais. In several hundred dissections made by Laënnec, covering a period of more than twenty years, he only found one large abscess, and the reason assigned by him for the paucity of this disease is, that it is either cured by art or destroys life before it proceeds to the length of destroying the pulmonary tissue.

Once only has Andral seen a real abscess, the result of pneumonia.

With all, we find the operation of empyæma, which was at first recommended and employed, without repugnance by most practitioners, in the end only recommended by some. A. Benedetti, J. De Vego and Ambrose Paré, succeeded in raising it for a moment from the discredit into which it had fallen, and it required no less than all the efforts of J. Fabricias to bring it again into repute; so that in reality it is only in the last two centuries that its advantages and disadvantages have been discussed and that it has again fixed the attention of surgeons. In America, the operation was but little resorted to until, perhaps, about twenty years ago, when Dr. Bowditch, of Boston, attracted the attention of the profession by his unparalleled success in its performance. Dr. John Brady, of New York, has published an analysis of one hundred and thirty-two cases of paracentesis thoracis, seventy-nine of which eventually recovered, fourteen were relieved, thirty-seven died, in one the result was not known, and in another, no benefit resulted. Dr. Gross, of Philadelphia, regards the operation perfectly safe and uniformly successful. Dr. Pancoast refrains from giving any opinion, and contents himself with the statement, "that from the fact of varying opinions of the profession the prognosis in the greater number of cases must be unfavorable." * * The late Dr. Chas. Bell Gibson, of this city, regarded the operation when timely performed, as generally successful, though his father, who was equally distinguished as a surgeon, maintained a different view. Dr. Thos. Watson states "that in his judgment the operations ought never to be performed unless the life of the patient is, or seems to be, in jeopardy, from the continued presence of the liquid within the thorax." Dr. Thomas Davies reports sixteen cases of paracentesis thoracis, three-

fourths of which recovered. M. Trousseau does not regard the operation as a dernier resort, but believes we should resort to it at a sufficiently early period, to prevent fatal accidents, and refers to several fatal cases occurring in the practice of himself, and others in which had the great effusion present been removed, the patient might have recovered.

Having cited all this eminent authority, to what conclusion shall we come? With Dr. Gross, we are compelled to say, "that the operation is perfectly safe and uniformly successful," and he might have added, that it was too rarely resorted to and not timely performed.

ART. III.—BISMUTH AND GLYCERINE AS AN EXTERNAL APPLICATION IN SMALL-POX. By J. RICHARDSON, M. D., of Louisville, Ky.

I would call your attention, and that of the medical profession generally, to the use of bismuth and glycerine as an external application in variola. Having seen a mixture of these two agents applied to burns and scalds with the happiest results, I was led to believe that a similar application to the pustules of small-pox might be beneficial. After reducing the bismuth to the consistency of tolerably thick paste, by stirring it in a wedgewood mortar, with a sufficiency of glycerine, the patient was ordered to be smeared over thoroughly, so as to form an almost perfect cast of the body, and oil silk to be spread over the whole. The annoying feeling of itching seemed, under this treatment, to subside almost immediately, as well as the nervous symptoms under which patients, suffering from this disease, labor.

I do not claim for this new use of the above remedy that the disfigurement resulting from the disease will be wholly prevented, but yet there is every reason to believe

that the extensive pitting is in a measure modified, and certainly in the cases in which the application was made the patients expressed a great relief from the unpleasant symptoms, under which they were suffering.

ECLECTIC DEPARTMENT.

"Floriferis ut Apes in Saltibus Omnia Limant."—LUCRET.

ART. I.—ANCIENT SPECULA, AND THE CONICAL OR CYLINDRICAL SPECULUM OF THE MODERNS. By WILLIAM R. WHITEHEAD, M. D., of New York.

A glance at some of the earliest specula known, may serve to give a proper appreciation of the excellences, or make more apparent the defects, of the modern instruments of this kind; and, at the same time, afford an occasion incidentally to offer a few remarks concerning the usefulness of the common round glass speculum.

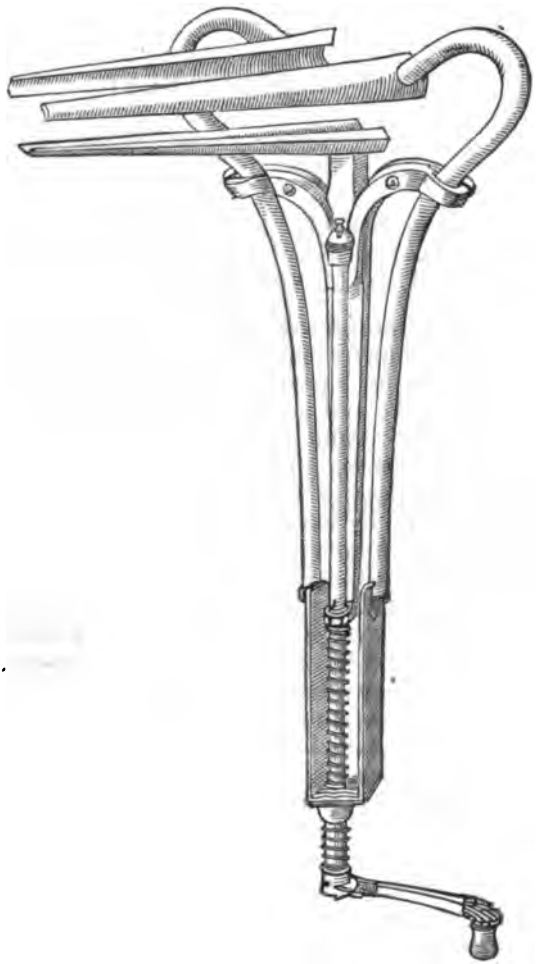
In briefly alluding to some of the ancient specula, I propose to exhibit by wood cuts representations of two, which, from their remote origin and ingenuity of conception, are eminently deserving notice.

Paul of Ægina, during the seventh century, was known for his knowledge and successful treatment of diseases peculiar to women, and described the speculum vaginæ under different names. Fabricius (ab Aquapendente), who wrote at a much later period, and was contemporary with Franco, held Paul in such high esteem as to rank him with Celsus; and it is probable that the speculum attributed to Fabricius was either the same used by Paul, or suggested by his writings. Rhazis, in the tenth century, and Albucassis, in the eleventh century, described the speculum vaginæ, as did Paul of Ægina, under the names of DIOPTRA, TORCULUM, VOLVENS, etc. Several centuries later, Franco, Paré, Scultet and others adopted the word speculum, which is now the one generally used.

FIG. 1 represents the speculum vaginæ used by Franco, and which has been exactly copied from that surgeon's

work. The instrument is sufficiently well exhibited to permit one, by careful inspection of the drawing, to dispense with an explanation. FIG. 2 shows that used by Ambrose Paré, and which may be seen in his work at page 997. The branches of this instrument were of the length of eight or nine fingers breadth; or proportioned to the

FIG. 1.

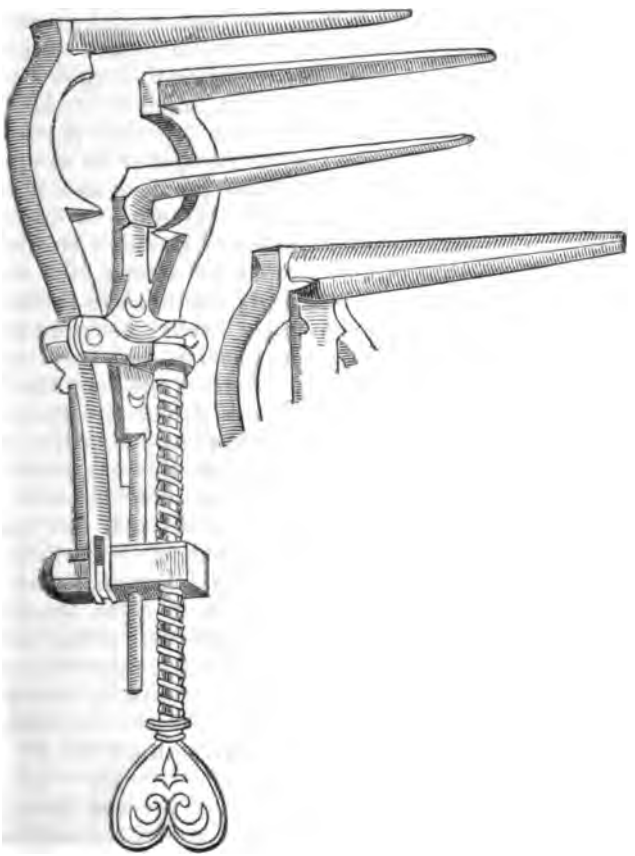


SPECULUM VAGINÆ, USED BY FRANCO, MORE THAN THREE CENTURIES AGO.

age and size of the woman. These instruments were not essentially different from those found in the ruins at Herculaneum. They were somewhat similar to that of Paracelsus, in use during the early part of the sixteenth century, and were not very unlike that of Fabricius ab Aquapendente. The instrument of Fabricius, however, had a cumbrous mechanism, with a right and left screw to move its three valves.

It is probable that Guillemeau, and afterward Mauriceau, Peu and Viardel, were familiar with the speculum

FIG. 2.



SPECULUM USED BY AMBROSE PARÉ.

used by Paré; especially Guillemeau, the pupil of Paré, and the translator of his works into Latin.

The speculum vaginæ gradually fell into disuse, however, to be again revived during the first half of the present century, as it had been revived during the times of Franco and Paré.

Récamier, who gave a new impulsion to the use of the speculum, preferred a simple conical tube of polished metal to the more complicated instruments of anterior date. Dupuytren modified Récamier's instrument by causing it to be made shorter and having a handle added to it, which addition was not generally considered an improvement.

Madame Boivin recognized the inconvenience attending the relative narrowness of the vulva orifice of the vagina, when it became necessary to dilate the upper part of this canal. Her speculum, however, failed to obviate this inconvenience; and in dilating the superior portion of the vagina, the branches of the instrument were as equally expanded at the vulva as at that portion and pressed painfully on those parts it was not intended or desirable to dilate too much. Jobert conceived the idea of dilating the uterine portion of the vagina by means of a speculum, which should correspondingly diminish in calibre, at the vulva, as the distal extremity of the instrument expanded. His speculum was composed of two segments of an articulated cylinder hinged together not very far from their uterine extremity. Ricord modified the speculum of Jobert by causing the hinge to be placed near the vulva extremity, and by the addition of handles the manipulation of the instrument was made more convenient. The branches of this bivalve speculum dilated the vagina in its lateral portions, and permitted of operations on either the anterior or posterior vaginal septum; and this instrument was, until the introduction of Sims' speculum, the one generally used in Europe for vesico-vaginal fistula, or for operations on the cervix uteri. Jobert's speculum has undergone various modifications by the addition of valves or other attachments, which, in some instances, have increased, and in others impaired its usefulness.

The names of many physicians, at present favorably known in the treatment of uterine diseases, are each associated with a speculum of peculiar shape. I am of the impression that each and all of these instruments have

served very well in the hands of their originators; and have proved to be useful means of exploration with those who have acquired skill in their use. It is not my intention, neither my desire, to comment upon the relative merits of any of these instruments, but to express succinctly certain preferences in favor of the common round speculum as a usual means of exploration, which opinion I think justified; and, while I desire to uphold the usefulness of this simple and inexpensive instrument, I wish to be thought fully to appreciate the superior advantages of others, where this is unsuitable. Moreover, having, in certain cases, experienced the want of a suitable instrument for the proper exploration of the female organs of generation, I have viewed with pleasure all attempts to attain this object. The glass cylindrical speculum, beveled off at the inner end, coated with tin toil, and covered with india rubber, is a very portable and simple instrument, of facile use and which, I believe, will meet the most frequent necessities of the general practitioner. Exceptionally, however, this speculum cannot serve the purpose of exploration, or be used for the most important surgical operations practiced in the vagina and uterus. But such operations do not form the major part of the treatment of womb diseases; and when complex operative procedures on the utero-vaginal region are required, other specula must supersede the cylindrical speculum. Difficult operations on this region are assigned to the dextrous hands of those possessing a special acquaintance with the subject; and, as the result shows, each one seems to have his particular speculum. The cylindrical speculum, as is well-known, may be introduced very conveniently with the patient on the left side or on the back, and if required, under cover. The beveled edge of the instrument is introduced between the labia and parallel to them; the perineal commissure is gently pressed by a slightly rotating movement, and the vaginal sphincter being passed, the speculum enters without difficulty. The cervix, if not abnormally enlarged or too much displaced, will enter the field of the instrument. Sometimes this will not occur, but the amplitude of the upper part of the vagina may permit, without injury to the cervix, a slight rotating movement of the instrument, which will end in discovering the cervix, either ante or retro-flexed. The end of Sims' flexible metallic uterine probe, hooked into the cervical canal, may, without too much pain,

cause the cervix to enter the speculum. If the cervix is too much displaced, the sound can not be introduced through the speculum, but should be passed along the finger, previously inserted into the vagina. The difficulty, of which some speak, of not being able to use the flexible sound through the cylindrical speculum, I have been usually fortunate enough to obviate by first shaping the sound to correspond to such a curve as a previous digital and bi-manual exploration may have discovered, at the first examination of the patient, to be necessary. The end of the sound being passed through the speculum and inserted into the cervical canal, a certain lateral movement is imparted to the speculum if the patient be on the side, and a depressing or elevating movement if on the back; and these movements should correspond to those of the sound held with the right hand. This kind of manipulation, with the proper curve to the probe, will frequently be sufficient to permit of a thorough examination of the uterine cavity by means of this instrument. When this cannot be done, the patient placed on her side or on her breast and knees, Sims' speculum being introduced and properly held, the cervix may be dragged down with a slender tenaculum and uterine probe introduced. Recently, at the Northwestern Dispensary, with the Women's Department of which I am connected, not having Sims' speculum with me, I made use of an old disused tongue depressor to examine and manipulate a prolapsed and partially, but badly inverted uterus. The house physician, Dr. Clark, kindly held the instrument for me while I attempted ineffectually to reduce the inversion, which was firm and immovable, resisting the pressure of the index fingers. I could not have desired a better view of the parts than I obtained with this improvised speculum. No other instrument could have enabled me better to manipulate; but I was compelled to desist, and inserting into the vagina a large cotton plug, saturated with glycerine, sent the patient home to remain quietly in bed, to wait the good results of rest, position, and the soothing effects of the glycerine, to reduce the congestion of the parts. The cylindrical or conical speculum is very convenient for making various applications to the cervix, or to the interior or cervical canal; for leeching the neck of the womb, or for local depletion by scarifications of this part. Sponge tents may, with facility, be inserted into the cervix canal through this speculum; which may

also be advantageously used for fastening a pair of spring forceps to the protruding end of the tent, previous to its removal and after the withdrawal of the speculum.

By scarifications of the cervix, made through the cylindrical speculum, from half an ounce to an ounce of blood may be withdrawn and removed by means of the well-known long-pipe rubber syringe. If desired, the flow of blood may be still further increased by injecting warm water into the speculum.

In conclusion, it is proper to add, that this instrument can nearly always be conveniently held by the patient, thus dispensing with an aid.— *New York Medical Journal.*

ART. II.—HOW TO PREVENT PITTING OF THE FACE BY SMALL-POX IN PERSONS UNPROTECTED BY VACCINATION.

After earnest consideration of the question as to the best means to be adopted to prevent pitting, after reviewing the different applications which have been recommended for this purpose, Dr. Charles Black, of London, determined, from his knowledge of the influence of light on the growth and development of both plants and animals, and of the destructive action of oxygen on diseased tissues, to exclude both these agents from the face of a patient that came under his care a short time since. He, therefore, shut out the light from her apartment by additional blinds of a dark color to the windows, and he guarded the face from the action of the oxygen by keeping it constantly covered with fresh hog's lard. So effectually was the daylight excluded, that the light of a candle had to be employed when anything important was required to be done in the room. During this time ventilation was strictly attended to. The disease ran the ordinary course, and when desiccation, which was rapid, had been completed, he had the satisfaction of seeing that no pitting of the face had occurred, it clearing off free from indentations or pits of any kind, and regaining fully its natural appearance in due time.

In Dr. Black's second case. the eruption was confluent on the face, and semi-confluent on the body. The mucous membrane of the mouth and nostrils was similarly affected. From the first moment of the appearance of the eruption until desiccation was partly completed, the patient was kept in *perfect darkness*, with the face constantly

besmeared with lard. As soon as the pustules had acuminated, they did not, as is usual, burst; but they shriveled, as it were, at once into yellowish-brown scabs, which fell off in two or three days, leaving the face *without a single pit*. No secondary fever occurred.

Dr. Black's third case of unprotected small-pox occurred in a female child of one of the families above named. She was six years old, of delicate constitution, weak and puny in development, and on her mother's side, hereditarily predisposed to pulmonary consumption. The attack was severe from the outset; the eruption confluent on the face and mucous surface of the mouth, and confluent to a great extent over the body. Dr. Black endeavored to impress on the minds of the parents the absolute necessity of keeping the patient in *perfect darkness*, and the face well smeared with lard. To these particulars they themselves attended; but not unfrequently a servant was placed for a time in charge of the sick-room, and whenever such was the case, the blind of one of the windows, which was close to the bed of the patient, was invariably half drawn up, so that a certain quantity of light fell directly upon the patient. In vain did Dr. Black forbid this, for so surely as the maid took charge of the patient as certainly did she pull up the window-blind, probably more for her own convenience than the gratification of the child. The case progressed favorably; no secondary fever followed; convalescence was soon established; and after desiccation had been completed, there was left on the face a *few shallow pits*, which could be seen only on close inspection.

Very shortly after the recovery of this case, a little brother, seven years old, sickened, passed through a severe initiatory stage, and had a confluent eruption. He, too, had not been vaccinated. Warned by the previous case, the room was in this instance kept perfectly dark, from the appearance of the eruption, until desiccation had in a great measure been completed. Although the face was so covered by the eruption that a free space, however small, could not be found; although the head and face were greatly swollen and the eyes closed for several days; and notwithstanding that the mucous surface of the mouth, throat and nostrils suffered in like manner, yet in this, as in the second case, as soon as the pustules had acuminated, they shriveled at once into scabs, which quickly fell off and left the face *without a single pit*. In this case, too, no secondary fever occurred.

Before this boy had left his bed, a sister, four years old, and a brother, three years old, were attacked. They also were unprotected by vaccination. The symptoms in both were severe; but especially so in the boy, in whom the eruption was more generally confluent than in any case which Dr. Black has yet seen during the present epidemic. The face was one mass of eruption, and, in the vesicular stage, so coherent were the vesicles on the sides of the nose, that they formed large blisters. Such, too, was the condition of the soles of the feet, whilst the surface of the rest of the body was so occupied by the eruption that a free space could scarcly be found. The eruption on the face of the girl was semi-confluent, but distinct on the remainder of the body. Both patients occupied separate beds in the same room, which was kept perfectly dark during the necessary period. Lard was freely applied to the faces of both, but especially to that of the boy, who, during the rising of the pock, frequently rubbed his face with his hands. Dr. Black was afraid that this interference would produce pitting, but such was not the case. Both patients made an uninterrupted recovery; there was no secondary fever, and not the slightest pitting of either countenance appeared.

The medical treatment pursued in each of the above cases consisted in administering from one to two drachms of the solution of acetate of ammonia, with two or three drops of the solution of arsenite of potash, every second or third hour from the commencement of the initiatory stage to the acumination of the pustules, from which period to the completion of the stage of desiccation, the dilute nitric acid, in doses of three to five drops, was substituted for the acetate of ammonia only. The diet consisted chiefly of milk and light farinaceous food, with cooling drinks during the earlies stages of the disease; and of these, with the addition of beef-tea, chicken-broth and similar food as the maturation of the pustules progressed. In but one instance was recourse had to any alcoholic stimulant, and that was in the case of the first patient, who was allowed a small quantity of wine during convalescence.—*London Lancet.*

ART. III.—USE OF COUNTER-IRRITANTS.

Prof. Hebra, the celebrated dermatologist, declares his opposition to the use of counter-irritants (revulsives), which form so large a part of ordinary medical practice. He professes to show that the theory by which their use was originally suggested, and is now maintained, is erroneous; and he brings forward clinical and experimental facts and arguments to demonstrate the evils which result from the practice. Physicians were, he maintains, led to adopt counter-irritants for the cure of internal diseases, by observing the alterations and apparent antagonism of cutaneous affections and internal lesions. When, for example, a patient, the subject of skin disease (as psoriasis), was attacked by fever, the chronic cutaneous eruption was observed to fade and disappear while the febrile state lasted, but reäppeared during convalescence. Again, in exanthematous fevers the febrile symptoms often subside on the appearance of the specific eruption; and, moreover, the eruption continues fully out, only under a favorable condition of the internal affection; while, on the contrary, if the internal symptoms are aggravated, the cutaneous eruption diminishes, and, before a fatal issue, becomes altogether invisible. Hence the popular idea among physicians and the laity, that the suppression or metastasis of the cutaneous affection is the cause of the fatal issue of the general disease. But these opinions are erroneous, for the chronic skin disease does not vanish first, to be replaced by the fever; but, on the contrary, the dermatosis only begins to fade after a prolonged continuance of an intense febrile state. In like manner, in every general disease of great intensity and prolonged duration, the anæmia which supervenes is first noticed on the skin, and hence the fading and disappearance of red eruptions in these cases, since even syncope will cause their temporary vanishing. Another erroneous opinion, prevalent from ancient times till the present day, which probably lent support to the use of counter-irritants, was the idea that every disease consisted of something material, which attacked sometimes one part, sometimes another, and which it was the physician's chief aim to eliminate; hence the terms *materia peccans*, acrimonies of the blood, acids, phlegm, black and yellow bile, etc. These

notions, in spite of modern pathology, still retain their influence on practice. It is, however, certain that we cannot judge of the remedies on such grounds, but only by a knowledge of the action of the remedy on the healthy body on the one hand, and an acquaintance with the natural course of disease, uninfluenced by remedies, on the other. This was first stated by Gideon Harvey, in his work, "Ars Curandi Morbos Expectatione, Amstelodami, 1695," where he says boldly that "it would be proper to write on the patient's prescription only the word, *Expecta.*" But the expectant method seemed a neglect too cruel to be practiced in dangerous diseases, until Hahnemann showed that fevers and inflammations were often as successfully treated by decillionths as by the Hippocratic apparatus of venesection and counter-irritation; whereupon physicians and clinical professors, convinced of the real nothingness of decillionths, resorted to the treatment of febrile and non-febrile diseases by the pure expectant method, and were thus enabled to study accurately the natural course of disease. Wherever their results were as successful as the older heroic practice pursued "lege artis," it was obvious that the latter was at least unnecessary, that the cure was done by nature in spite of heroic remedies: "Natura et morbum et medicum vincit." Nevertheless, some practitioners, who admit all this in regard to certain diseases, plead for counter-irritants to the skin in the class of affections called *rheumatism*, believing that the peripheral irritation will relieve the deeper seated parts. But how often do these remedies, from simple rubefacients up to the "horrible invention of the moxa," fail; so that where cases improve, it is rather *during* than *by* the treatment. An impartial examination would show that as many rheumatic affections get well under homœopathy, hydropathy, electricity, or plasters of quacks, as under counter-irritants.

Moreover, the excuse that it is necessary to do something to relieve suffering, and that blisters, etc., do no harm, is incorrect, as they often leave indelible marks on the skin, while hot and cold douches, lotions, liniments, and plasters do not, and yet afford as much relief. In diseases of the eye, also, the applications of leeches and blisters, which were formerly always used, are now condemned by many ophthalmologists. Clinical experiments in Hebra's practice gave similar evidence. Suppose on on the thigh of a patient an eczema rubrum of the size

of a crown-piece; place at two inches distance on one side a blister of the same size, on the opposite side a sinapism, and at the other two poles, tartar emetic ointment and croton oil. The artificial irritants will produce here bullæ and redness, there pustules and vesicles, but without at all diminishing the intensity of the central eczema. On the contrary, the latter often spreads to and includes the irritated surfaces, and becomes larger than before. Now, if in the same organ or tissue (the skin) a peripheral irritant cannot draw away and dispel a central affection of a similar kind, how can cutaneous irritation be expected to dissipate the morbid condition of the pleura, lungs, brain, peritoneum, eye, sheaths of nerves, etc.? What new paths do revulsives open up for the elimination of morbid products deposited in these cavities and organs? But cutaneous irritants, continues Prof. Hebra, are not only useless, but often do harm, and their pernicious effects either last long, or even put life in peril. It is, for instance, a well-known fact that the exanthemata, smallpox, measles, and scarlet fever, are more fatal in proportion to the intensity and amount of the cutaneous eruption. And experience teaches that the eruption is more abundant on parts of skin where an irritation or dermatosis (e. g., an eczema) previously existed. A sinapism, applied to the chest on account of dyspnœa, will cause a large amount of pocks to appear there, and if there were a counter-irritant large enough to cover the entire integument, a simple varicella might be converted into a fatal variola. Indeed, even the irritation of cold water in excess, applied hydropathically around an eczema, will cause its extension over the whole skin; and often the abuse of acaricidal remedies—e. g., the sulphur fumigations in vogue a few years ago—produces a horrible eczema over the whole external surface; often hot baths, pushed by some as an infallible remedy, diffuse instead of arresting a skin disease. The tartar emetic ointment, applied to the scalp in chronic hydrocephalus, causes no diminution of the effusion, while the pustular eruption is very painful, and may give rise to purulent absorption and erysipelas. A blister behind the ear is often the starting point of an eczema which affects the concha, the face and hairy scalp, and which, under unsuitable treatment, may last for years, causing great pain, as Hebra has often seen, without improving an ophthalmia in the least. Leech bites on the temples are followed by incurable white tri-

angular cicatrices, which certainly are no ornament to a pretty face. The marks of cupping, too, on the neck and arms of women, are often a serious disfiguration. Issues in the arm to prevent relapses of ophthalmia, or of cerebral congestions, or as derivatives from skin diseases, are not only useless for their intended purposes, but are very troublesome and frequently become the source of eczema which spread over the surrounding integument. Even the discolorations which sinapisms leave behind, entail a lasting defect when applied to the neck or chest of females. Sometimes, indeed, a fatal result may be caused through the application of counter-irritants in typhoid fever, pneumonia, or small-pox, in consequence of the blistered surface being the seat of *cutaneous diphtheria*. The tinct. of arnica, introduced by homœopathists, if diluted, as they use it, is harmless; but if applied in a concentrated form, it causes redness and swelling of the skin, which in sensitive individuals develops into an eczema, which spreads over a large surface and even the whole skin, and requires months to heal, confining the patient to bed for a longer period and a worse condition than the affection would have done, for which the arnica was administered. Many of these artificial skin eruptions, bullous, vesicular, and pustular, do not cease when the counter-irritant, which caused them, is removed, but last for weeks, months, or years. They can no longer be distinguished from the idiopathic skin diseases, eczema, pemphigus, impetigo; and were the common theory true of the protective influence of counter-irritation, these skin diseases ought to afford a security against internal diseases in proportion to their amount. In that case, no persons should be healthier than the subjects of general chronic pemphigus, which should afford means of eliminating all kinds of peccant matters from the system. On the contrary, however, experience teaches that exudative eruptions covering large surfaces, especially in the form of vesicles, blebs, or pustules, not only exhibit no preservative power, but the reverse, exerting a disastrous influence on the general health, and becoming a frequent source of fatal issues. *Lazarus* was always regarded as a collection of all kinds of diseases, requiring providential intervention for his cure! Veterinary art exhibited similar prejudices till a few years ago. Diseased animals, especially horses, used to be tortured with all kinds of cauteries and corrosives; and farriers were in repute with the

ignorant, in proportion to the cruelty of their treatment. But thanks to the heads of the medical department in the Veterinary Institute of Vienna, such practice is now obsolete there, and results equally satisfactory are now obtained by the expectant method, as were formerly got by those cruel manœuvres. Veterinarians, in this respect, according to Hebra, might serve as a model for physicians. "It would be desirable," he says in conclusion, "that every physician, before applying a counter-irritant to his patient, should ask himself the question, whether, if he were ill, he would treat himself in the same way? Indeed, it has rarely happened to me to see physicians who would have subjected their own persons to the application of issues, moxas, and setons. Yet, let not the physician forget the commandment, 'Do not that to others which you would not have done to yourself,' when, at the bedside of his patient, he finds other remedies unavailing, and is tempted to have recourse to epispastics as his last resort. He ought always to remember that his mission is to relieve pain, and wherever his attempts to do so fail in spite of all his efforts, he can console himself with the assurance that he has at least caused no superfluous suffering."—*Edinburgh Med. Journal*, Nov., 1867, from *Allg. Med. Zeit.*

[This suggestive article is published, on account of the distinguished position of its author. His views will not be indorsed by the majority of physicians, but it is well, in this connection, that the old latin injunction, *audi alteram partem*, should be practically obeyed.—ED.]

ART. IV.—FORMS OF CONTINUED FEVER, AND THEIR DEFINITIONS. By JAMES STARK, M. D., F. R. S. E.

From the want of good definitions of the various forms of continued fever, many medical practitioners find themselves at a loss to distinguish one from another, and so confound all together. It is, however, very desirable that every one should be able to recognize all the several forms, as each requires its own special treatment. Despairing of the Royal College of Physicians of London completing the work, in which it has for years been en-

gaged, and knowing how unwilling a public body is to commit itself in print, Dr. Stark, on his own responsibility, has drawn up the following summary of the forms of continued fever, and has appended definitions in such terms as have always enabled him to recognize them in his own practice. The distinctive names have been chosen as unlike each other as possible, inasmuch as great confusion occurs when the titles of the respective forms only differ in their terminal syllables, as in the case when the term typhus, typhia and typhinia are used.

First. *Typhus Fever* (also called spotted, maculated, low, putrid, brain, and nervous fever.), A continued fever, characterized by great prostration; with a mulberry or measly rash appearing early on the skin, *but not in successive crops*, and generally remaining visible during the course of the disease. Bowels generally confined, and no lesions therein found on dissection.

Second. *Enteric Fever* (also called typhoid, typhia, gastro-enteric and gastric fever, abdominal typhus and dothinenteritis.) A continued fever, characterized by rose-colored spots appearing chiefly on the trunk of the body about the end of the first week, *and in successive crops*, each crop disappearing in three or four days. Bowels often loose, and stools light colored. Enlargement and ulceration of the agminate glands of the ileum usually met on dissection.

Third. *Relapsing Fever* (also called short, or relapsing typhus, bilious typhoid fever, typhinia and synocha.) A continued fever of short but varying duration, characterized in general by an absence of eruption, but by an intermission of all the symptoms, and an apparent temporary return to health for a longer or shorter period; by the fever relapsing after five to eight or more days, and by more than one relapse occurring before health is restored. Skin often dark, or more or less yellow. As occurs in intermittents, there is a strong tendency to enlargement of the liver and spleen.

Fourth. *Gastric Fever* (called also bilious fever.) A continued fever attended by gastric and biliary derangement, with no eruption, and no tendency to relapse. Skin often more or less yellow.

Fifth. *Simple Continued Fever* (also called simple typhus, and simple fever.) A continued fever, without eruption, and without a tendency to relapse.

Sixth.—*Febricula.* A simple fever, without eruption,

of from one to, at the most, three or four days' continuance.

Seventh. *Infantile Fever* (also called infantile remittent fever.) Fevers occurring in childhood, characterized by daily exacerbations and remissions, with a tendency to diarrhœa. Cases of enteritis are often mistaken for this form.

Though these are the forms which prevail in this country, there is an eighth form, which is common on the continent of Europe, and which is the most fatal of all, usually cutting off 40 per cent. of those it attacks, and proving fatal on the third or fourth day of the attack. This is the epidemic brain fever or cerebro-spinal meningitis, so well known in Russia, Norway, Sweden, etc., and which constitutes no small portion of every epidemic of fever which attacks these countries. Occasional cases occur in this country; but we still want a good definition of the disease.—*Half Yearly Abstract.*

ART. V.—TREATMENT OF EMPYEMA IN CHILDREN.

Dr. Thomas Hillier, F. R. C. P., Physician to the Hospital for Sick Children and to the Skin Department of University College Hospital, writes upon the subject of empyema in children to the *British Medical Journal* for August 3, 1867, p. 80:

Pleurisy is a much commoner disease of children than would be supposed from reading the ordinary treatises on childrens' diseases. Its presence is often overlooked; the symptoms are referred to "infantile remittent," to "congestion of the brain," or to "disordered liver," and, if it become chronic, to phthisis or atrophy. Pain is either not complained of at all, or else it is referred to the abdomen, or shows itself in a general tenderness of the body; hence the chest is not examined. When a physical examination of the thorax is made, from the frequent absence of friction and the presence of bronchial breathing, with the difficulty of getting much information from the voice in young children, the case is often mistaken for inflammation of the lung or tubercular consolidation.

Idiopathic pleurisy is not at all rare in children; pleurisy, secondary to tubercle, to pneumonia, or to real

disease, is equally common, or even more so. Pleuritic effusion in children, even when idiopathic, has a great tendency to become purulent at a very early period. When pus exists in the pleura, as a general rule, the sooner recourse is had to paracentesis the better. Even when the effusion is not purulent, if the pleura is much distended, and dyspnœa is increasing, in spite of diuretics and counter-irritation, it is unadvisable to postpone the operation. If the empyema be of very long standing, and the dyspnœa be not great, and rather on the decrease, it is better to leave the case to nature; and the purulent collection will probably éxcite no irritation, and its fluid portion may be absorbed. In one case of this kind, in a boy five years old, where the disease was of three years' standing, I operated with the patient's chest under water. The lung, which had been long collapsed, was atrophied; a communication was established between the bronchi and the pleural cavity; this caused decomposition of the contents of the pleura, and the patient died in a fortnight of irritative fever.

Of seventeen cases of empyema of which I have notes, in six there were spontaneous openings or pointing of matter requiring operation; of these, five recovered with permanent fistula; the other died, after fourteen months, with necrosis of the sternum and amyloid degeneration of the viscera. In eleven cases, paracentesis was performed; of these, six recovered completely, one had a permanent fistula, and four died. Of the four fatal cases, one was a child only five months old, who died of collapse of the lung; one was twelve months old, and died of pneumonia; one was the child whose case I referred to just now; and another died of septicæmia, which case will be reported presently.

I believe it is of great importance to prevent the entrance of air into the pleura. I once put the patient into a warm bath, and opened the chest under water. The result in this case has been above mentioned, but was not due to the mode of operation. In some cases I have evacuated the contents of the chest by means of a long, narrow, elastic tube, whose free end opened under water. Unless air is admitted, and if the lung does not expand very readily, the contents of the cavity are but partially evacuated. To promote more complete evacaution, the employment of an exhausting syringe, as recommended by Dr. Bowditch (*American Journal of Medical Science*,

vol. xx, October, 1850, p. 325, and Gairdner's *Clinical Medicine*, pp. 380 and 718,) is of great service.

Of the last six cases in my wards at the Children's Hospital, in which this syringe has been used, five recovered, and only one died. This was a child, twelve months old, who died of pneumonia. He had been previously leeched on his head at the London Hospital, and, when admitted, was extremely anæmic and exhausted. These results are probably more favorable than one can usually expect to meet with. Of Bowditch's cases, in twenty-six, the fluid was serous and twenty-one recovered; in twenty-four, it was purulent—of these, eight recovered, nine were relieved, and seven died.

Dr. Hillier then gives a detailed account of his successful cases and comes to the

Conclusions.—Paracentesis thoracis is not a dangerous operation in children; if performed early, the chances of a favorable result are very great. The cavity should be evacuated as completely as possible without the admission of air, and then closed. If the contents of the cavity become fetid, a counter-opening should be made, and a drainage-tube introduced, as recommended by Chassaignac and Goodfellow. Injections of iodine tend to diminish fœtor, but have no effect in promoting the closure of the cavity. Change of air, nutritious food and tonics are the main agents in favoring recovery. Very great deformity of the chest from contraction after pleurisy in children, may be completely removed if the lungs have not been too long disabled by compression.—*Half Yearly Compendium.*

[Those familiar with Metcalfe's cases of paracentesis thoracis, in the treatment of which leaden wire setons were used to establish a drain, will conclude that Dr. Hillier exaggerates the danger of admitting air into the pleural cavity or that he is in error, in regard to the results of such admission.—ED.]

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M. D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians of the Hospital.

LECTURE V.—GREAT ENLARGEMENT OF THE SPLEEN FOLLOWING INTERMITTENT FEVER.

GENTLEMEN: My object in bringing this patient before you, is to illustrate what is not always so commonly recognized as you might suppose, the enlargement of the spleen in intermittent fever. It is unnecessary to furnish a detailed history of the case; suffice it to say that he has been subject to intermittent fever for nine months; he has now improved, but, as you will observe by the muddy complexion and the pallor of the skin upon the trunk, his blood is very far from being in its normal condition. The hue of the skin, depending upon a want of coloring matter of the blood, is, I presume, you are aware, in all probability connected in a great degree, with the altered condition of the spleen. The spleen, according to the present physiological notions, is regarded as the organ in which the conversion of white into the red corpuscles of the blood takes place,* and in an organ, therefore, which is highly important in hæmatosis, or the manufacture of red corpuscles. It used to be said by some physiological experimenters and others, that the spleen is a very unimportant organ, so unimportant, indeed, that if it is extirpated, as it has been in some of the lower animals, the

*Do not the most recent physiological researches render this popular "notion" untenable.—[ED.

animal not only survives, but enjoys afterwards very good health. I cannot deny that this may have been the case in the operations to which I refer, but I do know, every experienced physician knows, and you must know from your reading, that whenever in the human animal the spleen becomes enlarged and hardened, this change is accomplished with a very marked depreciation of the health, consisting, as might be expected from what we know of the functions of the spleen, in an extreme pallor of the skin, and a diminished activity of all the functions which depend upon the red corpuscles of the blood. Secondarily and mechanically we are apt to have dropsy of the abdomen; but this dropsy does not usually occur unless the spleen attains a very considerable size, and a great degree of hardness. It is a purely mechanical effect of the induration and obstruction of the spleen. If, therefore, the spleen be not, either from its size or density, capable of interfering with the portal circulation, dropsy will not take place. In the present case we have a patient whose spleen has been enlarged for a considerable time; but, as there is no dropsy of the abdomen, as it is everywhere resonant on percussion, it is comparatively easy to mark out the limits of the spleen, and my chief object in bringing this patient before you is to show you how easily this may be done, and how accurately we can measure the extent and shape of this organ by means of percussion.

You will notice, in the first place, that, as I said, there is no development of the abdomen; on inspection, there is nothing to indicate enlargement of the spleen; and yet you will notice, when I perform percussion, what the sounds are. Please to listen. I begin by percussing over the region of the lung, and advance downwards. Here is lung sound clearly. I now percuss to the left of the nipple beyond the limits of the heart, and therefore, being

sound, if percussion shows dullness in this region, it evidently must be due to the presence of the spleen. Here is resonance; there is dullness, that is diminished resonance, or incomplete flatness. A little lower down you observe that percussion is perfectly flat; an inch and a half below the nipple it is almost perfectly so, and an inch lower down it is absolutely flat, as flat as the percussion sound of the buttock or the thigh. I go down still further, and it is not until I come to this point, that is to say, almost half way between the ribs and the spine of the ilium, that I obtain resonance upon percussion. So that, by this method, you have determined the vertical extent of the spleen. I am sure you would not suspect so great an enlargement of the organ from the appearance of the side, so slight a projection is visible there.

Let us now measure the lateral extent of the spleen. Note the difference as I percuss towards the left. Here it is resonant and presently I reach a space which is perfectly flat upon percussion. Here is the stomach, it is resonant; there is the spleen, it is flat. I do not wish to keep the patient exposed to the cold air any longer than is absolutely necessary, but I will mark out the extent of the spleen. Having determined these different points in its periphery we are enabled to do this. By joining together by an inked line these points which I have discovered upon the limits of flatness, I get the shape and the size of the spleen.

There it is, gentlemen, and we are as certain that this line marks out its size, as if we had the spleen uncovered before our eyes; because the sense of sound in this case is just as indicative of a solid body within the abdomen as if the walls of that cavity were removed and we could see the organ itself. If this patient had dropsy of the abdomen, if the abdomen were enormously distended with ascitic fluid, it is very evident that the present

method of investigation could not have been so readily applied; the ascitic fluid would have overflown the spleen; and from not being able to limit the spleen in the lower direction, of course we should have been unable to measure its size.

Case II.—*Idiopathic Ulcerative Stomatitis.*—The man I have to show you here has an affection which you may, perhaps, think of no very great gravity, and yet I will venture to say there is not one among the students of medicine here present, who has ever seen such a case as this, and I believe that among practicing physicians, very few have met with it. After all, it is not a very grave affair, but it is interesting from its variety, and may prove instructive and prevent your making a wrong diagnosis if you should ever meet with a similar affection.

History—Andrew Gilligan, aged 47, born in England, a coach painter by trade. Of intemperate habits, but has never had mania-a-potu. Has been drinking quite steadily for the last three years, the beverage being chiefly whisky. He went into the army in 1861 and remained in the service, at intervals, for four years. Since leaving the army, he has not worked at his trade. He became partially blind before his first discharge from the army, he thinks about the latter part of 1862, and has so continued ever since, the blindness neither increasing nor diminishing. He cannot distinguish the features of persons six feet from him. On examination there is no appearance of disease of the eyes. Pupils obey the stimulus of light, and are moderately contracted. (These points have no direct relation to my object in bringing this patient before you, but may have some importance in conveying to you an idea of his general impairment of health.) No other disease about him. Had lead colic when thirteen years of age. Has never had syphilis.

On Monday, the 6th of this month, being then in perfect health, he states that he got cold, and was affected with coryza. No cough, no pains in the limbs. The coryza continued until yesterday, the 16th. A sore mouth soon followed the attack of cold, and the throat became swollen shortly afterwards; there was complete

inability to swallow, profuse salivation, swelling of the face and great soreness of the interior of the mouth. The tongue did not swell, but was very sore and very tender. Very little salivation during the day, but quite profuse at night, and especially during sleep. He is aware of no cause for the attack, neither ate, nor drank, nor smelled anything irritating, nor did he scald himself.

Present condition. General aspect that of moderate health; no heat of skin, pulse 72, rather less than normal in force. Tongue, very large, deeply furrowed in the centre and covered in the middle of the dorsum with thick yellowish white fur; sides rather pale, light purplish, and the whole organ moist and flabby; edges indented by the teeth, with several superficial ulcers upon their inferior surface. The lips, on the interior, show several superficial ulcers, especially the lower ones, which are now in process of healing; similar ulcers exist on the interior aspect of both cheeks. Gums soft and flabby, slightly ulcerated at their attachments to the teeth, and of a dusky red color, which color is that of the lining membrane of the mouth generally. Breath quite fetid, but less so than on admission, its odor less penetrating than that of mercurial sore throat. Teeth not loose, but very much discolored, and of a dirty yellow hue; no discharge from the nose, except mucus, and only temporary obstruction of right nostril. On inspection the mucous membrane of right nostril is very red, swollen, and slightly ulcerated. In the throat there is no appearance of ulceration, only diffused redness and roughness of mucous membrane. The patient is now using a mouth wash composed of acid. hydrochlor dil. ℥j, potass. chlorat ℥ij, tinct. cinchon. comp. f℥ij., aquae f℥vj. His diet is bread, milk and soups.

Here then, gentlemen, you have a sore mouth, a good deal like those which, I dare say, some of you may have seen in cases of salivation from mercury; and I do not suppose you could tell the difference between this and ordinary mercurial sore mouth; yet there is not a particle of evidence to show that this patient had been taking mercury in any shape or form.

I have thought this case worthy of being seen and remembered by you; and I have read the history of it to

prove that a man having no ailment whatever, except that feebleness and susceptibility of constitution which is produced by intemperate habits, may present the chief phenomena of mercurial sore mouth, without his having used a particle of mercury, and as purely the result of cold.

Affection:—How would you distinguish this affection from one of mercurial sore mouth? In the first place, in its history there is total absence of any cause which could occasion mercurial sore mouth; no mercury was taken internally, none applied externally, no inhalation of mercurial fumes, no working in any trade or art which required the handling of mercury, for all these might produce mercurial sore mouth. Besides, the affection began in the nostrils, where mercurial sore mouth, of course, never begins; you know very well it always commences in the gums, and almost always in particular parts of the gums, namely, at the attachment of the gums to the incisors, and almost always to the lower incisors.

In the history of this case, the disease of the mouth began in the cheeks and roof of the mouth, and the inside of the lips, and not upon the gums first.

Then, there is another point: there is no salivation in the proper sense of the term, not of that sort which necessarily exists in mercurial sore mouth. The salivation is produced during mercurial sore mouth not only by irritation of the buccal mucous membrane, but by the direct effect of the mercury upon the salivary glands. Here, although you have an extensive ulceration of a large portion of the mucous membrane of the mouth, the amount of saliva is comparatively so slight that it does not annoy the patient, except at night, when, of course, there is an accumulation, more or less, of saliva in his mouth which prevents his going to sleep with comfort, or it wakes him up when asleep.

Again, there is attending mercurial sore mouth always a peculiar odor. In all ulcerative diseases of the mouth a fetid odor is exhaled, no matter what they are, no matter how they arise. In this particular case the patient's breath has now an offensive smell; and it had, yesterday, a still stronger one, and the day before yesterday the odor was insufferable; but although so intense, so offensive, it was not a mercurial odor, but totally different. The odor of mercurial sore mouth is not so much fetid as it is acrid; it is fetid to be sure, a disgusting, nauseous odor, but at the same time an acrid odor. There was nothing of the kind here, it was a purely fetid odor which may be exhaled in connection with any ulceration of the mouth, which you have constantly in sore throat, when the tonsils are swollen, and the secretions of the fauces undergo putrefaction. The odor is then intensely fetid, but it is a totally different one from that produced by mercurial salivation.

On these grounds, then, the case before us is to be distinguished from mercurial stomatitis, of which affection you will perhaps have a good many cases, without finding one as severe as this has been.

Case III. *Cancer of the stomach, liver, and ascending colon.* The next case that I have to show you is one of a much more serious kind. You will remember that I brought before you, the first day I had the pleasure of meeting you, a woman who presented at the lower part, and in the centre of the abdomen nearly, quite near the umbilicus, a tumor, and you will remember the history of that tumor, the diagnosis which was made at the time, and the subsequent history *post mortem*. Now I have to show you a case which I am sure reminds you very much of that one.

History—(January 17, 1868.) Patrick Lewis, white, native of Ireland, æt. 53, a weaver by trade, of intemper-

ate habits, married, and has been residing in Kensington. He had rheumatism four years ago, at which time he was confined to his bed for a month. There is no hereditary tendency in his family to any disease. About the middle of last August, when his present trouble came on, he noticed that his bowels were becoming habitually constipated without any apparent cause, and that his appetite was failing him. ("His bowels were becoming habitually constipated." Please to note that fact particularly, because it throws light upon the swelling in the abdomen, which you will have occasion to see. It is upon the right side; but it does not constitute the chief disease.) Shortly afterwards he complained of pain in the region of the stomach coming on after eating; and this pain has continued to increase. He has never taken any medicine, except aperients. For three weeks past, he noticed that his feet and ankles were swelling, more by day than by night. He has been losing flesh since August last, he thinks at least twenty pounds. Two weeks ago, for the first time he began vomiting about two hours after eating. (That is another capital point which you will do well to note.) He has been vomiting since that time, three or four times every day. During the act of vomiting he complains of a burning, smarting pain over the stomach. Even when sitting quietly, he has continually a burning pain in the stomach, as if it were "raw" inside. He eats very little food, scarcely ever more than two or three biscuits at a time. He vomits a lightish brown, thin watery liquid, with lumps of half digested food, having a bitter taste and a sour smell. Immediately after eating he complains of oppression at the stomach. He generally lies upon his right side at night, but when upon his back, stretched out at full length, he complains of soreness across the epigastrium. The patient is remarkably tall and thin; aspect of face somewhat emaciated, conjunctivæ of a pearly whiteness, complexion straw-colored; lips pale; tongue and gums nearly natural; abdomen very much retracted in the iliac regions, but less so in the hypochondriac; about the umbilicus a little prominent; also at the upper part of the epigastric region. During respiration, several small nodules in the epigastrium appear to move under the skin. In the right lumbar region a projection is visible over the ascending colon, about the size of an egg. Upon palpation in the epigastrium, at a point midway between the umbilicus and the sternum,

there is a marked tenderness on pressure, especially towards the left side. In the same space there is dullness on percussion, and slight elevations upon a firm surface can be felt, which are exceedingly tender. In the anterior part of the right lumbar region, there is a tumor of somewhat irregular outline, hard and rough to the touch, but indolent and dull on percussion, extending apparently in the direction of the ascending colon. The respiration is slightly feeble on the left side. The patient has complained of pain at the lower part of his left side, in his back. Heart sounds about normal; pulse 84, rather small and feeble.

You see, then, gentlemen, from these notes of the case, this man, up to last August, was well; from that time he began to suffer from pain in the stomach which came on after eating; this symptom continued, and was, perhaps, the most remarkable one, except that he was steadily losing flesh all the time. He suffered from constipation from the first. About two weeks ago he began to vomit, and has continued to suffer from vomiting ever since.

You will observe that his complexion is what I have described; there is general paleness of the skin and a slight bronzing of the cheeks, an earthy hue, a mixture of pale brown and yellow. The conjunctivæ are entirely bloodless; the tongue, you will observe, does not look as pale by any means as the face—I mean relatively. This peculiar appearance of the complexion, I wish you to remark, because it is quite characteristic of the disease. It is not in every case of the disease affecting this patient that you have the complexion which is often described as belonging to it, but here you have it in a marked degree.

You will notice what I have before read to you, the general depression of the abdomen, and particularly the depression of it in the iliac regions, so that the wings of the ilii stand out. You will also notice that central projection about the umbilicus which was mentioned in the history, and you will further observe a tumor to the

right of the umbilicus. In the epigastrium you are not able to see as well as I can an enlargement in the upper part of that region. On passing my fingers over it in this way, I can distinctly feel slight elevations upon the surface. Now these elevations must be one of two things, they must be upon the surface of the liver or of the stomach. If they are elevations upon the surface of the stomach, percussion made over them will give rise to a resonant sound; but instead of that, percussion there is absolutely flat, and the flatness is continuous with that which belongs to the liver. We will presume, then, that this is the liver, and that these are nodules upon its surface. The one which I am now feeling I should suppose to be as large as a half dollar, and of a somewhat oval shape. Here is another smaller than that, perhaps as large as a silver five cent piece.

Upon going down farther and examining this tumor in the region of the ascending colon, I find that it is twice as large as it was yesterday. The first day, when I examined this tumor, it was suggested to me that its nature was of a "heterologous" tumor. I very soon discovered that the tenderness at the pit of the stomach rendered it probable that there was a "heterologous" deposit there, but on feeling this tumor, and finding that it manifested no sensibility at all, I examined it more thoroughly. I found that I could separate into lobes, or separate portions, by pressing it with my fingers, from which I concluded that the mass of the tumor was fœcal. Now, a purge was given to this patient, and, either through its influence, or in some other way, the bowels had become cleared out, so that yesterday I found a very different state of affairs, from that which existed on the previous occasion. Not only was the tumor decidedly smaller, but it had an oblong shape, and it could not be separated into "lobes." To-day I find that the original condition

has returned; here is a large, hard lobulated tumor at least twice as large in its transverse diameter, as it was yesterday. What are we to infer from this? Evidently, at this point there is an obstruction and the fœcal matter accummulates behind that obstruction, so that, after a purgative, or after the action of the natural forces, this obstruction is entirely overcome, and then there remains only the mechanical thickening of the bowel which gave rise to the original arrest of the fœcal matter. What is the nature of the obstruction? There is, I must say, but one legitimate supposition, viz: that it is formed by a cancerous deposit thickening the walls of the intestine. The other symptoms of the case not only too sustain that judgment, but some of them also determine the existence of carcinoma in the stomach and probably in the liver. What are those symptoms? I have mentioned them to you in reading the history. Here is a man who, while apparently in good health, rapidly loses his appetite and flesh, begins to suffer pain in the epigastric region and has obstruction of the bowels. All of these symptoms became aggravated in spite of everything which can be done to palliate them, and then there is added to them vomiting of an excessively sour taste and smell. These symptoms, taken together, point to a mechanical obstacle in the stomach and in the colon, and with the progressive loss of flesh and the complexion of the patient, and what we have discovered by palpation of the liver, leave no doubt that we have to do with cancer, probably originating in the stomach, possibly originating about the same time in the centre of the colon and then propagating itself, as it so commonly does, from the stomach to the liver.

You are able to witness now, if you will notice the patient, the peculiar kind of regurgitation of which I have spoken. You see it is not a vomiting strictly; it is

here merely an expulsive action of the stomach, without any participation by the abdominal muscles. Why is this? Because a mechanical obstacle prevents the passage of food through the stomach. In the ordinary process of natural digestion, you know the food performs certain revolutions from the cardiac to the pyloric extremity of the stomach and back again, until it is sufficiently digested to pass out at the pylorus; but, in the present case, it is unable to get out at the pylorus, and, consequently, is thrown out by a regargitation action from the œsophagus and mouth. [The patient having been removed, the lecturer continued.]

In speaking before patients affected with serious diseases, common humanity would prompt us to avoid using language which might lead them to over-estimate the gravity ot their affection, and, therefore, in the presence of this patient, I used the word "carcinoma" in preference to "cancer," since it is probable, if I had employed the latter term, he would have understood its grave significance, while the other he would not comprehend.

In this case, then, we have cancer of the stomach, cancer of the liver and cancer of the ascending colon, proven by the physical examination and by the history of the case, the steady loss of flesh, and the persistent vomiting of a particular kind, which has been described to you. I am not sure that one element has been sufficiently referred to, and it is that the vomiting never occurs immediately after the taking of food. In this, and in most cases of cancer of the pylorus, there is a different condition from that which occurs in simple ulcer of the stomach. In the latter, vomiting is apt to occur immediately after the food is swallowed; in cancer of the pylorus it rarely takes place immediately, but some two or more hours afterwards. The reason of it is probably this: in simple ulcer of the stomach the ulcer is seated

upon a healthy membrane, it is in fact a healthy or an irritable sore, and consequently the contact of food with it stimulates the stomach to expel its contents; but in cancer of the stomach, you have the lesion seated upon the connective tissue infiltrated with cancer, i. e., an organism of very low vitality, and therefore the contact of food with it is not apt to cause its immediate expulsion. What then causes this regurgitation? I have explained to you already that the food cannot escape from the stomach, downwards, and having to travel several times through the organ, it becomes unfit for nutrition, it undergoes fermentation and is finally rejected through the cardiac orifice, because it cannot escape through the pylorus.

Exhibition of Morbid Specimens.—I will ask you to pass this specimen around, gentlemen. I have not time to say anything more about it than this: that the patient had, evidently, hypertrophy of the heart, with a loud musical murmur in the first sound over the aortic valves. I wish you to see for yourselves what kind of an alteration may give rise to such a beautiful musical sound as was heard in this case. The heart, you will notice, is very large; it weighed, I think, twenty ounces. This patient had some dropsy, but the immediate cause of death appears to have been congestion of the lungs. Both lungs are congested; they are exceedingly heavy and gorged with blood. There is a condition of them, by-the-by, which I will call your attention to; you observe that the tissue of the lung is very soft; it breaks down with great facility, showing that there is something more than mere congestion of its blood vessels. It is one of those cases of pneumonia, in which the congestive element predominates over the exudative element.

I should like very much to go into the history of this particular case, but I cannot do so in detail. I will, however, call your attention to the following brief sketch:

Thomas Britton, a native of Philadelphia, æt. 50, was admitted into this hospital, January 14, 1868. He complained of shortness of breath. Respiration about forty per minute, had no cough, nor expectoration. Pulse 80; skin tolerably moist; senses perfect; complained of nothing but shortness of breath; and he had had just such an attack last August, which continued a week. The present attack had also existed about a week. Percussion of the right lung revealed dullness over the middle and lower portion, down the side and back; left side not very resonant. Upon ausculation, the vesicular murmur was not to be heard upon the right side, upon the left side it was audible. Upon inspection, both sides rose and fell equally; no difference could be detected in this respect. The patient died suddenly at 4 o'clock, on the morning of the 15th.

The history states that both sides rose and fell equally; now, the fact is that the whole movement of the two sides of the chest was that of rising and falling, there was hardly any expansion at all, and the reason was this: I exhibit to you one of these lungs, reminding you that the patient presented all the evidence of a pleuritic effusion upon the right side; that is to say, that there was dullness on percussion and an absence of vesicular murmur at the lower part of the right lung, and after death an enormous effusion was found there, almost a gallon of liquid. You observe its effect upon the lung. The lung was compressed into a small mass against the spine and was reduced to a condition like that of a fœtal lung; no air could enter it at all. You will also observe here a thick false membrane which united the ribs of the left side and the corresponding lung. But this left lung, although not compressed by a pleuritic effusion, was compressed by its adhesions to the walls of the chest, and probably by the contraction or falling in of those walls, since this lung tissue is very evidently carnified, and no longer perfectly permeable to air. It is evident, therefore, that this man died from inability to get air enough

into his lungs to vivify the blood which the heart propelled into them, and consequently the mechanism of life stood still. On the right side he had pleurisy which caused him to gasp for breath, as is described in the notes, and finally, the struggle was too much, the water increased in his chest and he died suddenly. Nothing is known to have been the matter with his heart. As you are well aware, sudden deaths occur most frequently from disease of the heart; and in the present case, death was sudden only in this sense, that the actual moment of its occurrence came suddenly; the patient was literally dying for days, before he actually ceased to breathe.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

PARIS, March 1, 1868.

I doubt if professional rivalry is anywhere in the world more earnest and ardent than it is in this great metropolis. It is certainly sharper here than it is in London, and is far more intense than it is among our brethern at home. Every medical man in Paris seems to be seeking to originate a practice of his own, and failing to do that modifies the practice of some professional brother, and claims that his modification imparts all the value to the process. Now and then a practitioner, unable to suggest a new method, and seeing no current practice in which he can offer any improvement, falls back upon some obsolete, half-forgotten method and lauds it for its efficacy. Or, as a last resort, not to follow in the footsteps of his rivals, if he can originate or revive nothing, he will import and adopt the practice of foreign physicians. No

Paris doctor (all are doctors here, both surgeons and physicians, and are addressed as *Monsieur le Docteur*, or briefly as Monsieur,) who pretends to distinction will teach or practice what any living confrére practices or teaches, if he can help it.

The history of the pneumatic method of treating stumps, lately introduced at the Hotel Dieu, is a case in point. Dr. Guerin, I believe, is the author of the process. It consists in the exclusion of the air from the raw surface. By proper appliances to the stump and an air pump, the atmosphere is withdrawn, and it is claimed that by excluding the air, suppuration is obviated. Dr. Maisonneuve has modified the apparatus and claims that his modification is to the original method what life is to the body; that, in truth, Guerin's apparatus is worth nothing. Upon this has sprung up a sharp controversy between these eminent surgeons. M. Guerin accuses M. Maisonneuve of appropriating his discovery without the proper acknowledgment, and accounts of both methods have been published in the daily papers of Paris. The notice of M. Maisonneuve appeared one day, and the next day that of M. Guerin came out, written, no doubt, by Guerin himself, to prevent Maisonneuve from getting the credit of his suggestion. The statement of Maisonneuve is, that in a communication addressed by that surgeon to the Academy of Sciences he described an apparatus contrived by himself, whereby the fluids poured out by stumps are at once abstracted by a process of suction, and the mortality, from amputation, thus greatly reduced. Guerin says: "The importance of preventing atmospheric air from being in contact with wounds and sores is now generally recognized, and the ingenuity of surgeons is now directed towards contriving means for effecting this desirable end. Dr. Guerin has communicated to the Academy of Medicine the description of an apparatus

by means of which *pneumatic occlusion*, as it is called, may be extended simultaneously to all the patients confined in the same surgical ward." Both papers then go on to describe the apparatus in detail. I shall not follow them at present.

Since I wrote last, I have been observing the dressing of fractures by silicate of potash, by dextrine, and by the plaster of paris. Except that dextrine makes a smoother and neater looking dressing than starch, I do not see that it possesses any advantages over that substance, applied in the same way. The silicate of potash dries too slowly and has no advantage, in any respect, that I can perceive, over the other two materials. The plaster becomes almost instantaneously dry, and is clean, neat looking, and altogether the preferable treatment of the three. Innumerable methods are suggested for employing these substances, each surgeon seeking to improve the dressing, or at least to differ from all other practitioners. At the hospital for children's diseases, I saw Dr. Giraldés dress two fractures of the femur, as follows: In the first case, that of a boy of a cachectic habit, eleven or twelve years of age, whose thigh had been broken by a fall at play, Dr. Giraldés prepared a dressing by sprinkling two or three table spoonsfull of common salt, in a basin, then pouring in some warm water, and adding plaster of paris, and stirring until the mixture acquired the consistency of thick cream. He then tore from a bolt of coarse, thick muslin a strip a foot or more wide, and long enough to extend from the hip to the knee. This he folded several times, reducing it to the width of your hand, and having saturated it with plaster, applied it to the front and outer side of the limb, which had first been placed in a natural position, with the ends of the bone in apposition. Previous to applying the dressing, the boy was placed under the influence of chloroform. The plaster, which now

had become as thick as mush, was heaped upon the muslin to the depth of one or two inches and the surface made smooth. The operation was performed very rapidly and when completed the appliances were already as hard as spermaceti, and in a few moments had acquired the firmness of stone. No bandages, no adhesive strips, nothing, but what I have mentioned, was used in the dressing, which adhered perfectly, and impressed me most favorably. The second sufferer was a child, eight or ten months old, with a fracture, like the first, of the middle third of the femur. Silicate of potash was brought in a bottle, some of which being poured into a basin, a piece of domestic, proportionally the size of the muslin employed in the case of the older boy, was soaked in it, and then folded and applied to the child's limb, as in the first case. A smaller piece of cloth was then folded and laid dry upon the first. This soon became saturated with the silicate, which is of about the consistency of thin syrup. Then a roller bandage was thrown around the limb, from the knee to the hip, several times, and the child ordered to be kept quiet. It requires two hours for this dressing to become at all firm, and two days to make it hard, but finally it comes to be like stone.

I have had the pleasure of visiting the great Ricord, chief of syphilographers. I called on him with a letter of introduction from Dr. Marion Sims, and was received by him most cordially. He treats all Americans in this way, and seems to be very fond of our country and people. He speaks excellent English and converses fluently in it. The only peculiarity which I observed in his phraseology was calling a hard chancre always "a *hardened* chancre;" which is strictly correct, and, in one sense, more expressive than the usual term. Dr. Ricord is a stout, heavily built man, not tall, with large gray eyes and thick, heavy features. His face is bright and sagacious,

and also strikes me as benevolent in its expression. He is, I suppose, nearly seventy years old, though robust still and vigorous. His establishment is large and elegantly furnished. His anteroom is an immense parlor, the walls of which are covered by costly paintings and all its furniture is showy. His office is walled in by books, with pictures, statues, etc., in bronze and marble scattered promiscuously about the capacious apartment. Catheters and other instruments were in sight, and chairs to be used in operations on men and women. On his table by him was a pile of twenty-franc gold pieces deposited by his patients as fees. Each patient puts down a Napoleon on leaving the room. He was very communicative and seemed to take pleasure in answering my questions. He says he will not teach again, but may bring out something in print in a year or two. He holds still to his former opinion, that indurated chancre alone can produce constitutional syphilis. Soft chancre, he declares, is utterly incapable of giving origin to constitutional symptoms. The apparent contradictions to this principle arise, he contends, from an incorrect diagnosis. He also contends that mercury, properly employed, will cure syphilis, and, as a proof that it does effectually eradicate the poison from the systen, he has seen the indurated chancre contracted by a person who had before suffered with secondary syphilis and had been cured by mercury. That persons remain perfectly free from all syphilitic signs for twenty or thirty years, or more, after a mercurial course, and in the meantime beget healthy offspring, he regards as pretty good proof that mercury can cure the disease. His treatment is well known to the profession. For tertiary syphilis he uses the iodide of potassium. In the secondary form of the disease his reliance is upon mercury, and to chancre he addresses local treatment. In a note which I received from him to-day, in reply to some

questions of mine, he says: "Secondary syphilis may be contagious, and may give rise to primary sores." Upon this point nearly all syphilographers seem to be agreed, and the statement is one which it is easy to believe. I am strongly tempted to enlarge upon the subject, but for the present must forbear.

Since writing the foregoing I have had an opportunity of seeing Dr. Maisonneuve apply his pneumatic dressings in four cases of amputation. Of the four patients operated upon, two died. The dressing was changed daily, and at each removal of the apparatus, the stumps were found bathed in offensive pus. The method is troublesome and, in my judgment, not valuable, though Maisonneuve looks upon the result in these cases as a triumphant proof of its superiority, Dr. Gosselin having just lost five out of six amputations dressed in the ordinary way. It is to me a wonder that any patients recover of amputations in the Paris hospitals. The stumps are kept bathed in putrid pus and are daily dressed, usually with poultices.

L. P. YANDELL, JR.

NEW YORK, May 22, 1868.

Yours of the 19th, inclosing a letter from Dr. Brickell, has just been received, and I hasten to reply, in order that you may be possessed of *all* the facts in the case as soon as possible.

The statement made by Dr. Gross at the last meeting of the American Medical Association in Washington, that "the association had never passed a resolution to make medicines and surgical instruments contraband of war;" and also the one by Dr. Davis, that "not only had they never passed such a resolution, but that *no such resolution* had ever been *offered* to the association," are

strictly and positively *true* to the *letter;* but as they do not tell *all* the facts in the case, they are calculated to mislead, and hence the error into which Dr. Brickell and others have fallen.

The true statement of the case, with *all* the circumstances is simply this: The *Government* had made medicines and surgical instruments contraband of war, and Dr. Simmons, of the U. S. A., at that time surgeon in charge of David's Island, called upon me and requested me to bring the subject before the American Medical Association (which was then holding its annual meeting in Irving Hall) and request their influence and coöperation to induce Congress to so modify the law, as to rescind this order in relation to the articles above mentioned.

Dr. Simmons (with whom the idea originated) stated to me at the time that I might use as an argument "the fact, that Gen. Zachary Taylor had already established a precedent in our late war with Mexico."

Gen. Taylor having learned that the Mexican army was in absolute want of medical and surgical stores, and, owing to the completeness of the blockade, he knew that they could get no supplies, he, therefore, sent Dr. Simmons, under a flag of truce, to visit their hospitals, ascertain their wants in these particulars, and gave an order to have them supplied from our department.

This humane act, or rather Christian duty, was faithfully performed to the end of the war.

Dr. Simmons and myself immediately prepared a preamble and some resolutions, to the effect desired, and I was to present them to the association on the following day.

Always opposed both to abolition and secession, and a devoted friend of the Union, I, still, was bitterly opposed to this civil war, believing, as I sincerely did, that it

would cause the destruction of our constitution, which was the palladium of our liberties.

My views were so well known by the whole community, that I feared we might injure the good object we had in view should my name be associated with it. I, therefore, suggested that Dr. Augustus K. Gardner be requested to present them, as he was a well-known Republican, and as he was also connected with the Daily Times, he could thereby help to mould public opinion in its favor.

We immediately went to Dr. Gardner's house, although it was after 11 P. M., and stated to him the object of our visit. Although differing most bitterly with me in politics, he, nevertheless, heartily indorsed our views and promised his most earnest efforts to secure their passage.

Dr. Gardner remodeled the preamble and resolutions and brought them to me in the morning for consideration. I thought them so much better than those we had left with him the night before, that I gave them my most hearty approval, and the Doctor presented them to the association just at the close of the morning session of that day.

The *time* chosen for their presentation was most unfortunate, as it happened to be just at a moment of great excitement upon an entirely different subject, in which Dr. G. had taken quite a conspicuous part, and, of course, there was some little ruffled feeling, that had not time to cool down. I presumed that he would not present the resolutions until the afternoon session and along with many other delegates, left the convention.

In a few minutes after we left, Dr. Gardner offered his resolutions, and, without understanding their meaning, the association tabled them on a motion of Dr. Loomis, of the District of Columbia; and, on motion of Dr. Maberry, of Pennsylvania, "*indefinitely*," was added and the

previous question called, and thus the matter killed without debate.

A very large portion of the association were entirely ignorant of the whole matter, until the following morning, June 20, when they were published in the Daily Times, with some very appropriate remarks, over Dr. Gardner's signature.

The action that had been taken by the association was deeply deplored by every one and I am satisfied, from conversation with nearly all the members on the subject, that had the subject of the preamble and resolutions been properly understood, they would have been passed by an almost unanimous vote.

Dr. Gross was not present at the association in New York, when the resolutions were presented. Dr. Davis was present and was very warmly in favor of their adoption; but, as you will see, they were entirely different from a "resolution to make medicines, etc., contraband of war" and, therefore, the justice of his assertion at the meeting in Washington.

I probably should have made this statement in Washington, at the time Drs. Gross and Davis made their assertions; but observing such a tendency to mutual reconciliation and brotherly affection, I thought it was wiser not to refer to any of the errors of the past, hoping that they might be forgotten and forgiven.

Finding, however, that there is still some misunderstanding in the matter, among some of our Southern brethren, I thought it best, in answer to your letter, to give you a full statement of all the facts in the case.

Very respectfully, your sincere friend,

LEWIS A. SAYRE, M. D.

P. S. You will find the resolutions of Dr. Gardner in the Transactions for 1864.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

THE INDIGESTIONS OR DISEASES OF THE DIGESTIVE ORGANS FUNCTIONALLY TREATED. By THOMAS KING CHAMBERS, Hon. Physician to H. R. H. the Prince of Wales, etc., etc. 1867: Henry C. Lea, Philadelphia, octavo, pp. 284. Contents of volume: Indigestion of various foods; habits of social life leading to indigestion; abdominal pains; vomiting; flatulence; diarrhœa; constipation and costiveness; nervous diseases connected with indigestion.

We have derived much pleasure and profit from the perusal of the monograph named above. A glance at the "contents" will suggest to the reader the great importance of this little volume, as a guide to the management of a class of diseases that the general practitioner has constantly under his charge. Whilst the author seems to have made a specialty of disorders of the intestinal canal, he has fortunately avoided a fault common to the majority of specialists and monographists, to-wit: excessive classification, hair-breadth differential diagnosis and pedantic definitions. "Healthy digestion," he writes, is *quick*, *complete* and *easy*." Again, "in ill-health digestion becomes *slow*, *defective* and *painful*." Such are samples of his definitions, the English adjectives being preferred to Greek and Latin terms.

The chapter on indigestion of the various classes of food—the starchy and saccharine, the albuminoid, the fatty and the watery—embraces an eminently practical consideration, from a physiological stand point, of the whole subject of alimentation. Then follows the treat-

ment, "based upon the article of food not digested," in which many practical suggestions are thrown out in relation to the comparative digestibility of animal and vegetable substances, and the most approved mode of preparing them.

The author insists upon the importance of a mixed diet; that oftentimes impairment of the digestive function results from the withdrawal of one or another article of diet, because of the temporary pain and annoyance caused thereby. In certain instances, he urges a return to this offensive article, whether animal or vegetable, for reasons that are as unique as they would be startling to the confirmed dyspeptic.

Patients and doctors both make a great mistake, in shunning absolutely all that causes pain or inconvenience. They ought to consider whether the thing shunned is or is not an essential to high health; if it be so, every effort should first be used to get it borne without pain; when that goal cannot be reached, wisdom and duty will often guide us to submit to the pain for the sake of the accompanying advantage.

"It may be remarked that the designed attainment of voluntary pleasure always involves endurance—endurance of disagreeable sensations which coming upon us against our will, would be real torture. A day's hunting, a match at cricket, an Alpine tour, even a picture gallery, or a ball, success in love, literature, or war, are impossible to those who recoil from bearing immediate pain. This ought to be, and (experto crede) is, a consolation to many a sensitive sufferer. When it is pointed out that their pains are identical with what they and others have borne without a murmur, nay, without notice, in the pursuit of enjoyment, their losses and aims may be, not so much for the absence of the sensation, as for the vigor which will ignore it."

The author devotes a short section to the "abuse of alcohol," and to the "use of tobacco." The latter, he thinks, has nothing to do with indigestion, its effects being manifested by nervous disorders not depending upon deranged nutrition. Whilst he does not interdict, in toto, the employment of the former, he insists that the *forenoon dram* will "infallibly shorten life." He suggests to the medical examiner for life assurance the substitution for the aimless inquiry—"Is he sober and temperate?" the more pointed question—"Do you take spirits in the forenoon? Is that a habit?" Such a suggestion may be ever so important, but it is questionable whether its strict observance in this country would secure many policies for an assurance company.

Objections might be made against the physiological views of the author, upon some of the subjects which he discusses in this monograph. For instance, he considers the act of vomiting entirely independent of anti-peristaltic movements; that there is a complete relaxation of the muscular parieties of the intestinal canal, while the experiments of Segallion and Beclard prove conclusively that, at least, so far as the œsophagus is concerned, there is a positive, visible, violent contraction of the longitudinal bands of muscular fibres, causing a shortening of the tube and a change of relation in its long axis. Although not perfect and complete and exhaustive of the subject, still the author's clinical observations of the two hundred and twenty-seven cases given in detail, and his suggestions as to the treatment of the most common disorders of the digestive apparatus are simple, reasonable and practical. We have already filled the space allotted, and have merely glanced at a few of the noticeable features of this excellent work. As a book for daily reference, it would constitute a valuable addition to a medical library.

J. M. H.

MEDICAL REPORT UPON THE UNIFORM AND CLOTHING OF THE SOLDIERS OF THE U. S. ARMY. Surgeon General's Office, April 18, 1868.

This pamphlet of twenty-six pages contains the report of Assistant Surgeon and Brevet Lieut. Col. Alfred A. Woodhull, U. S. A., to the Surgeon General on the subject above named, based ugon the experience and observation of a large number of medical officers on duty during the late war.

We have here a careful review of the various styles of wearing apparel hitherto prescribed for the soldier and the selection of that particular style which allows the greatest ease and freedom of motion; the color that combines beauty with usefulness (CADET GRAY COAT AND GRAYISH-BLUE PANTALOONS); the texture more completely protective against climatic changes and that will secure a uniform temperature of the body by absorption of cutaneous transpiration; at the same time the head is to be relieved from the dangerous burden of the old stiff hat and the soft felt hat is to be substituted.

It may be asserted, we think, without fear of controversy, that during the late struggle, the most important modifications of the "science and art of war" were the direct result of the pains-taking efforts of the medical department to secure the highest degree of comfort and health, and thereby the efficiency of the common soldier.

The great revolution in military dress, that will result from the adoption of this report by the Surgeon General can be best expressed by allusion to the leading idea that pervades the whole report, to-wit: That the soldier should be clothed with a view to his greatest comfort, and not, as heretofore, with the view to enforcing a mili-

tary carriage. The latter can be more properly secured by drilling. J. M. H.

THE AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN. Edited by E. NOEGGERATH, M. D., late Professor of Obstetrics and Diseases of Women and Children in New York Medical College, and B. F. DAWSON, M. D., Lecturer on Uterine Pathology in the University of New York. Moorhead, Bond & Co., New York, Publishers. Price, $3 00 a year, single copies, $1 00.

We cannot notice this new candidate for public favor (which we add to our exchange list with great pleasure) more appropriately than by quoting the first paragraph of the editorial: "This, the first number of the American Journal of Obstetrics, etc., is offered to the medical profession with the hope that, as a sample of succeeding numbers, it will be found of sufficient value to merit their approbation, and that it may, if possible, supply the want long felt ,by many, of some periodical which would be devoted exclusively to obstetrics and the diseases of women and children."

The original department contains an excellent article on placenta prævia, with records of eight type cases, by Prof. Thomas; an elaborate essay on croup, by Prof. Jacobi, and an unfinished article on "the rectum in its relations to uterine disease," by Prof. Storer.

The publishers have done themselves full justice in getting up the work, and we wish them a well-merited success. J. M. H.

[NOTE.—The other reviews, prepared for this number, have been, from want of space, omitted. They will appear in the August issue.——ED.]

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

NASHVILLE, TENN., June 16, 1868.

The undersigned, in response to the request of a number of physicians and of the relatives and friends of the unfortunate subject of this investigation, give the following testimony: The infant, J. Myrtle Corban, *has four legs and two distinct external female organs of generation, with two external openings of the urethra and two external openings of the double rectum.* The external genito-urinary organs are as distinct as if they belonged to two separate living beings. The fæces and urine are passed (most generally simultaneously, particularly the urine), from both external urinary and internal openings, situated respectively between the left and right pairs of legs.

The head and trunk are those of a living, well-developed, healthy, active infant of about five weeks, whilst the *lower portion of the body is divided into the members of two distinct individuals, near the junction of the spinal column with the os sacrum.* As far as our examination could be prosecuted in the living child, we are led to the belief that the lower portion of the spinal column is divided or cleft and that there are *two pelvic arches supporting the four limbs,* which are situated upon the same plane.

Photographs of this infant have been made by the advice and under the supervision of one of our number.

The reality in this case surpasses expectation, and we are of the opinion that this most interesting *living monstrosity* exceeds in its curious manifestation of the powers of nature in abnormal productions, the celebrated "Siamese Twins."

JOSEPH JONES, M. D.,
Prof. of Phys. and Path., University of Nashville.
PAUL F. EVE, M. D.,
Prof. of Surgery, University of Nashville.

Further remarks by Professors JONES *and* EVES, *for this Journal.*

Josephine Mrytle, is the third offspring of W. H. and

Nancy Corban, aged twenty-five and thirty-four, the wife being the senior by nine years. They are so much alike in appearance, having red hair, blue eyes and very fair complexion, as to produce the impression of their being blood kin, which, however, is not the case. Mrs. Corban is from North Alabama, had borne one child to a former husband, the child having dark coloring, and resembling mostly the father, who had black hair and eyes. Her three children are all girls; the one already alluded to, now six years old, another three, and this *infant monstrosity*, now to be more minutely described, born the 12th of May, 1868, in Lincoln county, Tennessee, five weeks ago.

Mr. Corban is a Georgian, served in the Confederate army through the war, and was severely wounded in the right arm and left hand. The parents are in fair health, though the mother is anæmic. She recollects no fright or disturbance during her last pregnancy. The presentation was fortunately the head, which accounts for the preservation of the life of the child. It would be curious to speculate on the trouble, which might have been produced had the feet or breech presented, while the result, in all probability, would have proved fatal to the infant, and possibly to the mother. Mrs. Corban says that there was nothing peculiar in the labor or delivery. When three weeks old the child weighed ten pounds. It now nurses healthily, is thriving well and we saw it urinate simultaneously, between the *two pairs of labia of the two vaginæ*, situated about six inches apart. From the crown of the head to the umbilicus the child measures twelve inches, and from this point to the toes of the right and left external feet, eleven inches. From the umbilicus up, all is natural and well formed; all below this, extraordinary and unnatural. An inch below the navel is a mark of an apparent failure for a second one. *There are four distinct, pretty well developed, lower extremities.* They exist in pairs on both sides of the median line which resembles the cleft of an ordinary pair of legs; but here there are no marks whatever of arms or genital organs, and upon pressure we discover no os coccygis or sacrum. The outer legs of both sides are the most natural of the four, (though the foot of the right one is clubbed,) but are widely separated by the two supernumerary ones, which are less developed, except at their junction with the body, from which they taper to the feet and toes more

diminutive and which are turned inwards. One toe is bifid on the left extra inward extremity. At birth these extra legs were folded flat upon the abdomen. We are led to believe that there are *two uteri as well as two recti;* in fact, that the pelvic organs are double. Of course, a minute dissection would alone expose the true condition of these parts.

Should this infant reach maturity and the internal generative organs be double, there is nothing to prevent conception on both sides. The first difficulty will, however, be in her walking. The outer, or external legs, may be used for progression; the inner or inturned ones, probably never. These might be successfully amputated at the knees, or higher up.

One of us recollects being in London, in January, 1830, at an exhibition of the Siamese Twins, when Sir Astley Cooper gave an opinion adverse to an operation with a view to separate them, but which has always appeared to us as feasible and without much risk of peritonitis; an operation too, which should undoubtedly be performed in case of the death of one of them; for no medical man believes in the vulgar impression that they must die simultaneously. In the present case all surgical interference is, of course, out of the question, except that alluded to—removal of the extra legs.

Cases somewhat similar to the above have occurred and been described. Rokitansky refers to two completely distinct bodies conjoined at their ossa sacra or coccyges, as in the well-known Hungarian sisters, Helena and Judith, born in 1701, who survived their twenty-second year.

Geoffrey St. Hilaire alludes to cases of a trunk with two heads, some even Janus-like, having four upper and four lower extremities.

The case, however, recalled most vividly by Josephine Myrtle, is that of Rita Christina, well known in Europe, and accurately described in this country years ago by Prof. Meigs. In this wonderful instance, there were *two heads, two necks, four arms*, but only two legs; and was thus the reverse of our case. In fact, the *two* children would, if properly organized, have made *two girls*. From the umbilicus down, there was one well-formed child, but above this all the organs were double; in reality, there existed two beings. The rectum and bladder were common to both, but all else in the trunk was double and dis-

tinct. One would sleep while the other played, etc., for they had *two spinal marrows, two brains, two hearts*, but which occupied a common pericardium. Unfortunately, after surviving a little over a year, one sickened and died, when the other, then in health, instantly expired.

Rita and Christina were born in Sardina, 1829, and described by Dr. De Michaelis, Prof. of Surgery in the Royal University of Sassari, and lived eighteen months.

The late Prof. J. C. Warren, of Boston, first described the Siamese twins brothers, when purchased of their mother by Capt. Coffin and Mr. Hunter (joint owners) and brought to that city, in 1829.

Carbolic Acid in Burns.—Professor William Pirrie, of the University of Aberdeen, recommends carbolic acid and olive oil, in the proportion of one to six as an application to burns. He relates in the Lancet the case of a delicate girl, eleven years of age, whose face, neck, side, back and arm were severely scalded by boiling water. Two folds of surgeon's lint were soaked in the carbolic acid and oil applied over the whole surface, the tin foil being placed above the lint to exclude the air. In ten minutes the patient was free from pain. On the second day the skin was greatly improved, and the bullæ, which had formed, seemed withering away. The skin was perfectly healed on the twelfth day, the cuticle having been thrown off. Not a drop of pus formed during the treatment.—*Pacific Medical and Surgical Journal.*

A Foreign Journal on Dr. Salisbury's Discovery. In the last number of the American Journal of Medical Science, Dr. Salisbury has described a new batch of vegetable parasitic growths, which he has seen developing in the parent epithelial cells of the urinary and genital organs; and he has illustrated his paper by thirty-four wood cuts. The author's tendency to multiply species is in direct antagonism to the teachings of modern science; and those who are acquainted with microscopic fungi will recognise, we doubt not, in Dr. Salisbury's *Torula catarrhalis, Zymotosis gracilis, Penicillium pruriosum*, and the like, nothing save light variations from the ordinary state of tortula, and especially its oidial form.—*Lancet, May* 23.

Medical Students—Progress.—A correspondent of the Western Medical Journal (Prof. Parvin) has the fol-

lowing, showing the marked change in the appearance of medical students *now* as compared with the *past*. "I was indeed forcibly struck with the grand difference between the medical students of eight or ten years ago and those of to-day. I mean *personal* or *material*, or whatever you choose to call it. As I was walking in the procession the other day, as an alumnus of the dear old university, I was startled to see that change—thank God—for the better, the *much* better, if I can so phrase it; as the long list of graduates, dressed neatly, tastily, in a word, as *gentlemen*, each with head erect and glancing intelligent eyes, passed by, my heart swelled within me with pride. There was an evident *elevation in standard*, literary and social, an end so devoutly hoped for by the public and prayed for by all the *good* men of our profession. How different was the scene presented, even when I graduated, not so long ago by any means. Then, if indeed there was not a majority of such men, certainly there were enough long-haired, long-whiskered, big-caned, green overcoated, cigar-smoking young men to have done credit to Pike's Peak or to the mines of the Wachita. It is to be devoutly hoped that the days of the *rowdy* medical student have been numbered; that that strange uncouth nondescript may speedily be fossilized and then numbered with 'the things that were.'"

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

Election of Dr. J. Aitken Meigs.—We are pleased to announce the election of Dr. J. Aitken Meigs to the chair of Professor of the Institutes of Medicine in Jefferson Medical College in this city. It is one of those appointments based on real and widely acknowledged merit, and thorough mastery of the subject, which must redound greatly to the usefulness of the Jefferson College as an institution of medical learning. Without in the least questioning the deserts of the other candidates, we

think that all must acknowledge that the trustees have made a most judicious choice for the position so long and ably filled by the venerable and learned Dr. Robley Dunglison, whose resignation we lately mentioned."—*Phila. Sur. and Med. Reporter.*

Pirogoff not Dead.—The Berliner Klinische Wochenschrift, which, some weeks ago, confirmed the report of Pirogoff's death, announces the death of two distinguished Russian Surgeons, viz.: the Inspector General and Member of the Privy Council, Peter Alexandrowitsch Dubowitzky, whose influence on medical education in Russia was immense, and the renowned Prof. Szegmanowsky, one of the most celebrated surgeons of Russia, who died on April 13 (25) at Kiew. At the same time, the Journal says that the rumor which has gone through the press of Europe, medical and non-medical, concerning the death of Prof. Pirogoff is happily not true, the distinguished surgeon still living at his country seat, near Kiew.—*Medical Times and Gazette.*

Dr. J. J. Chisolm has resigned the Professorship of Surgery in the Medical College of the State of South Carolina, and has removed permanently to Baltimore, where he will devote his time and attention, exclusively, to aural and ophthalmic surgery. With an experience, both at home and abroad, in the practical cultivation of this specialty, Dr. Chisolm enjoys all the advantages for attaining a success which he certainly deserves.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

American Medical Association.—In the April number of this Journal, it was stated, that, during the recent war the American Medical Association "had used its influence and its power to have all medicines and surgical appliances made contraband of war; that physicians, in all countries, would ever consider the course of the association, in supporting and detending the action of their

government, in withholding such supplies, as incomprehensible and indefensible."

During the last meeting of this association, the president, Dr. Gross said, he desired to avail himself of the opportunity to correct an erroneous statement which had gained publicity throughout the Southern States in regard to a resolution alleged to have been passed by this association, recommending that the Government should make surgical instruments and medicines contraband of war.

He said: "I take this occasion to deny that the American Medical Association ever passed any such resolution and hope that our President elect will do everything in his power to promulgate this fact among our Southern brethren."

"Dr. Davis desired to say in addition that not only had no such a resolution ever been adopted, but that it had never been introduced."

It will be observed, in this explanation, that there is the imputation of a charge having been made, to the effect, that the Association passed a resolution, recommending the government to declare medical and surgical appliances, contraband of war. No such charge has ever been made. It was stated, by this Journal, (and perhaps by others), that the Association should be condemned for supporting their government in the policy which it had adopted in this connection. So much for the facts. Had, however, the charge been actually made, that the Association did pass a resolution recommending this inhumane course, on the part of the government, such a charge, though incorrect in the letter, would have been true in spirit.

To appreciate the correctness of this assumption, it is only necessary to read the resolutions which were adopted by the Association and published in the volume of its Transactions, for 1864. See volume XV, pp. 39 and 40, from which is made the following extract:

"Dr. Gardner, of New York, presented the following preamble and resolutions, which he hoped would meet with the approval of the Association:

WHEREAS, It is the duty and great distinction of Christian nations, and in conformity with the highest instincts of humanity, to assuage the horrors of war in every possible manner, in which attempt the medical profession has ever been eminently conspicuous; and,

WHEREAS, The stringency of our blockade of the Southern coast has, to a great extent, deprived the sick and wounded, the feeble, the babe, the helpless woman, the aged man, as well as the sufferers by wounds and disease, in the ranks of our enemies, of needful appliances to relieve pain and to save life; and,

WHEREAS, From the same cause, thousands and tens of thousands of our own brave sons and brothers, fighting for the holy cause of our glorious Union and left wounded on the battle field, in the hands of the enemy, have been compelled to have operations performed without the relief and benefit chloroform would bring, and have lain suffering unto death in the hospitals of the South, from the absolute destitution of the country, of many needful medicines and instruments of surgery; and,

WHEREAS, These articles are in no respect to be considered as among the "sinews of war," and, as has been seen, are not material to a vigorous prosecution of rebellious warfare; and,

WHEREAS, This association, numbering among its lawful members the medical men of the entire thirty-four States of the Union, we deem it eminently fitting that we should urge upon the Government and the people of the United States to remember the universal brotherhood of man and the undying attributes of humanity; it is therefore, unanimously,

Resolved, That the association request the President of the United States to take such action, as shall cause all medicines and medical and surgical instruments and appliances to be excluded from the list of articles called "contraband of war," and that such articles in any quantity may be purchased by any person in any State of the Union, and may be conveyed beyond our lines under a flag of truce, and, after proper inspection, so as to give every necessary comfort to relieve any human suffering, whether of our own soldiers or that of the enemy.

Resolved, That a copy of the above preamble and reso-

lutions be sent to the President and heads of Departments, and to each and every member of the United States Senate, and attested by the officers of the association; and that every member be requested to use all the influence in his power in stripping this fratricidal war of some of its unnecessary horrors, and thereby to inaugurate the reëstablishment of more kindly feelings, and to smooth away some of the obstructions to the reconciliation of our misguided brethren.

Resolved, That a committee, representing every State of the Union here present, be appointed to present these resolutions to the President.

Dr. Loomis, of the District of Columbia, moved to lay the whole matter on the table.

Dr. Mayberry, of Pennsylvania, moved to amend the motion to lay upon the table by adding the word "indefinitely," which amendment was accepted by Dr. Loomis, and the motion, as amended, declared carried.

Can an impartial judge discover any material distinction between the course attributed to the Association and the course actually adopted by it? What is the specific difference in the spirit of a body, where, on the one hand, it recommends the adoption of an inhumane policy and where, on the other, it places "indefinitely on the table," resolutions, designed to remove an inhumane policy?

When, however, it has been chiefly charged, that the Association supported and defended the action of the government, in its inexcusable policy, all who read Dr. Gardner's resolutions must admit, that the charge is true and that the explanations made at the last meeting of the Association, though correct as to the letter were incorrect in spirit.

Dr. Sayre, in his letter to this Journal, (see p. 88,) charitably infers, that the resolutions mentioned, were "tabled indefinitely," because no one was giving attention to them. Even if the Association accepts such charity, while admitting the coincident sarcasm, none who were not members of that body can feel that this charity is

justly bestowed. It is impossible to so stultify a body, as to believe, that, among its very numerous members, not one was sufficiently attentive to challenge a motion, the object of which was to practically indorse a policy derogatory to the dignity and humanity of a government and offensive to all who should either actively or passively support it. Charity can not go so far as to believe, that in that large assembly there was no one sufficiently on the alert to check a "motion," reflecting so indelibly on the personal and professional character of those who entertained and adopted it.

That some, (possibly many) of the members were not cognizant of the spirit of the motion can be readily admitted, but it is impossible to believe that there were not, also, many who heard this motion, who understood its spirit, and who deliberately determined to support it.

If, as Professor Sayre declares, the majority of the members of the Association so "deplored" the adoption of this motion, why was not the motion reconsidered and why were not the resolutions adopted? The government certainly was justified in assuming, that its policy in regard to this whole subject, had secured the public approval and support of this medical representative body.

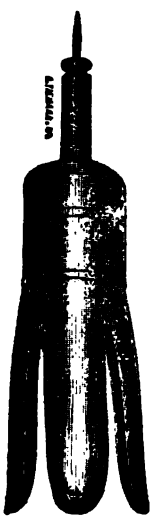
As a matter of history then, it can not be denied, that the American Medical Association, in refusing to even entertain Dr. Gardner's philanthropic resolutions, did practically support its government in a policy, the effect of which was "to deprive helpless and dying men, of means (regarded by the profession) necessary to their safety and their life."

Thus much has been written to vindicate the truth of what has been often said privately and publicly; to substantiate what was published in the April number of this Journal. As was said in that number, so it is repeated, that even after showing the unfriendly, unprofessional

and unphilanthropic course of the Association, during the war, it is better that this body should be generally supported; that its future meetings should prove it to be in spirit, as well as in name, the American Medical Association.

May the profession, throughout the land, receive as welcomely and seriously, as did the Association, the sentiments of its worthy president, Dr. Baldwin, of Montgomery, Alabama, when, in delivering his recent address, he "closed with the hope, that charity, forgiveness and fraternal love would wipe out all traces of bitterness."

The Unimanual Hypodermic Syringe.—The accompanying diagram represents this new instrument, an acknowledgment of the receipt of which is hereby made to



the inventors, Messrs. Tiemann & Co., of New York. The well-established reputation of this firm, as manufacturers of every variety of medical and surgical appliances, is a sufficient recommendation for any new instrument which emanates from them. We have not yet had an opportunity of testing fully the practical operation of this instrument, but find that it throws out a fine jet with sufficient force to ensure absorption. There is a shield, not represented in the diagram, that fits over the troear to protect its point from injury. The instrument was constructed for the use of those physicians who have been so unfortunate as to lose an arm. We take pleasure in recommending it to such persons for trial.

Mr. E. Steiger, of 17 North William street, New York, is now prepared to furnish all foreign and domestic

journals, as well all literature needed by the profession. Importations will be made weekly, by him, of all foreign works. He is also prepared to translate and print any books submitted to him.

Such a house is much needed and this one can be unreservedly recommended. For the convenience of subscribers to this journal, the last catalogue of Mr. E. Steiger is mailed with this number.

THE CRAIG MICROSCOPE, WITH MOUNTED SPECIMENS FROM THE INSECT, MINERAL AND BOTANIC KINGDOMS—GEORGE MEAD, RACINE, MICHIGAN, SOLE PROPRIETOR.—We have received from the proprietor one of these instruments, together with mounted specimens of the insect kingdom. Having employed it in the examination of urinary deposits, the blood discharge from scrofulous abscesses and the mounted specimens sent, we feel justified in recommending its use. It magnifies an object about *one hundred diameters*, which is sufficient for ordinary purposes. A majority of the profession, heretofore, have been unable to provide themselves with microscopes, because of their high price. Mr. Mead has at last removed this obstacle, by manufacturing an instrument which he can afford to sell at the small sum of $2 50.

THE editor of this Journal acknowledges with pleasure, the liberal support which has so far been extended to him, since entering his new field of labor and also the uniform courtesy manifested towards Mr. W. P. Holloway, the business agent of this Journal.

Mr. Holloway will visit the different sections of Kentucky and the adjoining States. Through the incidents of the recent war, he has been a severe sufferer, and the editor asks, in behalf of this most excellent gentleman, a continuation of that welcome kindness which has been so universally extended to him, and for which he desires

The commutation allowed to members of clubs, in their subscription to this Journal, is, for many reasons, (unnecessary to mention) discontinued, after the first of July, 1868. Commutations at present existing will be continued for one year from the date on which they respectively commenced. See advertisement.

Mortuary.—Died, April 28, 1868, of apoplexy, at his residence in Mechlenburg county, Va., Dr. W. W. Oliver, in the sixty-fifth year of his age.

Dr. Oliver was extensively known throughout the State; was engaged in a practice for over twenty years, which was extensive and arduous. His health giving way, he retired at the age of fifty-six; he was a graduate of distinction of Hampden Sidney College and graduated in medicine at the University of Pennsylvania.

NOTICES.

In the business pages of this number, there will be found an advertisement of Messrs. Wm. Knabe & Co., of Baltimore, After a practical familiarity with the pianos made in this country, it can safely be said, that the instruments made by this firm, combine all of the advantages, separately claimed for others. They are unsurpassed, and like the manufacturers, we recommend them to all, with pleasure and confidence.

Dr. E. H. M. Sell, 47 West 29th street, New York, is a General Business Agent of this Journal, and, as such, is authorized to contract for Advertisements and Subscriptions, and to collect and receipt for the same.

Notice.—Physicians who are members of Medical Associations or Societies are respectfully requested to send copies of all interesting reports or abstracts of instructive debates, etc., for publication in this Journal.

Dr. A. H. Semmes, of Savannah, Ga., is a duly accredited agent of this Journal.

To Physicians.—Arrangements have been made whereby any American Medical book, or American edition of any Foreign Medical book, will be sent, free of expense, by mail or express, on receipt of the lowest sum charged by the publishers. Physicians desiring any work will be supplied by the Editor of this Journal on these terms. Many of the works desired, with the respective price of each, will be found in the advertising pages of this Journal. Where the work is not specified, information as to its price may be obtained by a letter addressed to the editor.

All American Journals and reprints of Foreign Journals will be furnished to subscribers at 15 per cent. below cost.

For the convenience of the supporters of this Journal, instruments of all kinds, and medicines, will be purchased without charge, and sent as may be desired, by mail or express.

Short Articles.—It is requested, that articles contributed for this work, should be brief and practical. With few exceptions, long communications are distasteful to readers and are generally neglected; it is difficult to make room for them. Papers of merit are retained for many months, when, if the valuable truths contained were briefly presented, they would be promply published. It is the desire of the Editor of this Journal to increase, relatively, the Eclectic Department, and, to effect this, original papers of limited extent are preferable.

Where subscribers reside in cities, they will oblige the Editor of his Journal by forwarding their local address. Without such information, the Journals very commonly lie neglected or undelivered, at the different Postoffices.

Correspondents will save themselves much annoyance and the Editor much regret by preparing their manuscript carefully; writing with legibility, using but one side of the paper, and dividing the text into paragraphs.

This Journal is published as a Monthly octavo of 100 pages. It is now the largest Medical Monthly issued in America. The terms of the Journal have been changed. See notice on the cover.

Mr. W. P. Holloway, of Louisville, Ky., is a General Business Agent of this Journal, and, as such, is authorized to attend to all business connected with the work.

Mr. John Dunlop, of Richmond, Va., is authorized to collect all sums due to this Journal, prior to January, 1868.

One dollar will be paid for every October (1867) number of this Journal.

NOTICES TO SUBSCRIBERS, ADVERTISERS, CONTRIBUTORS, AND CORRESPONDENTS.

Receipts for all amounts transmitted, will be sent in the Journal, for the succeeding month.

All communications sent by mail should be directed to Dr. E. S. Gaillard, Locked Box 29, Louisville, Ky.

European packages, sent through Trubner & Co., 60 Paternoster Row, London, or J. B. Bailliere et Fils, Rue Hauterfeuille, Paris, will be safely forwarded.

It is expected that all expenses will be paid on packages, foreign and domestic, sent to this Journal.

Contributions for publication must bear the signature of the writer, and must be communicated to this Journal exclusively.

Original articles should be written on one side only of each sheet and the manuscript should be, by the sign ¶, divided into paragraphs.

Contributors can have forwarded to them, at a small expense, one hundred or more copies of their articles, in pamphlet form, provided the order to this effect is received before the period of publication.

The Journal will be sent a second time, when not received one month after the usual period of its appearance.

Rejected manuscript will be returned, if desired, by mail or express at the expense of the writer.

Each subscriber should give at length his name, Postoffice, County and State.

CIRCULAR.—The undersigned will take pleasure in supplying his Professional Brethren with vaccine virus, as heretofore, on the receipt of two postage stamps. At the same time, he is desirous of aiding the Female Orphan Asylum of this city, a part of whose inmates are sad legacies of the recent civil strife. He, therefore, proposes to all who can afford it, to remit one dollar for each crust, to be applied to the uses of this touching charity.

The virus he proposes to distribute, has been cultivated more than twelve years. It is very active, and perfectly protective; the crust may almost always be removed on the fourteenth day, and never leaves a deep ulcer.

Should any abnormal symptoms be produced, or should it fail altogether, he will be glad to be notified.

JAMES BOLTON, M. D., Richmond, Va.

FOR advantageous club rates and premiums, to all desiring to support this Journal, see advertisement.

SPECIAL NOTICE.—It often happens to the busy Practitioner that, while he is unable to make a careful review of the history and pathology of any disease which has been presented to him in an important or unusual form, he can easily spare the time necessary for communi-

cating by letter all of the interesting facts, in connection with one or more of his cases.

It will have been observed, in recent issues of this Journal, that this has been done, and such letters having been published, have aroused interest and attention; indeed, there is no portion of a Journal which is more generally and profitably read. It is requested, therefore, that all Physicians, if indisposed to write a formal article, based upon their practice, will communicate by letter an account of all that may have interested them. Such letters are fully appreciated by readers, and will be published with pleasure.

BOOKS AND JOURNALS RECEIVED.

Chronic Alcoholic Intoxication. By W. Marcet, M D., F. R. S., London. New York: Moorhead, Simpson & Bond, 1868. From the publishers.

Felix Von Niemeyer's Clinical Lectures on Pulmonary Phthisis. Translated, by permission of the author, from the second German edition. By J. L. Parke. New York: Moorhead, Simpson & Bond, 1868. From the publishers.

The Dartrous Diathesis, or Eczema and its Allied Affections. By A. Hardy, M.D., Paris. Translated by H. G. Piffard, M. D. New York: Moorhead, Simpson and Bond, 1868. From the Publishers.

Materia Medica. For the use of Students. By John B. Biddle, M. D., Professor of Materia Medica and Therapeutics in the Jefferson Medical College, Philadelphia, Pa. Third edition. Philadelphia: Lindsay & Blakiston, 1868. From the publishers.

The Principles and Practice of Laryngoscopy and Rhinoscopy, By Antoine Ruppaner, M.D.. M.A. New York: Moorhead, Simpson & Bond, 1868. From the publishers.

Lessons in Physical Diagnosis. By Alfred L. Loomis, M.D., Professor of the Institutes of Medicine in the Medical Department of the University of New York, etc. New York: R. M. DeWitt, 1868. From the pulishers.

Pathological Anatomy of the Female Sexual Organs. By Julius M. Klob, M.D., Professor at the University of Vienna. New York: Moorhead, Simpson & Bond, 1868. From the publishers.

Seventeenth Annual Catalogue of the Louisville Female Seminary. By Mr. W. B. Nold, 67-68.

The Law of Human Increase. By Nathan Allen, M.D., Lowell, Mass. From the author.

Memoranda. From the Clinical Course of Instruction in the Medical Department of the University of Louisiana. By Prof. Warren Stone, 1867-68.

Annual Circular of the Medical College of the State of South Carolina, 1868-69.

Orthopædic Apparatus and Description of the Mechanical Appliances employed in the Treatment of Deformities and Deficiences of the Body, with directions for taking Measurements for their Application. By D. W. Kolbe, Philadelphia.

Fifth-Fourth Annual Announcement of the Jefferson Medical College of Philadelphia, Pa., 1868-69.

The Revolution. May, 1868. Elizabeth C. Stanton and Parker Pillsbury, Editors. New York.

The African Repository for March, 1868. Washington.

The American Agriculturalist. New York. June, 1868.

Metropolitan Board of Health of the City of New York. Special Report upon the Operations of the New York Rendering Company. September 28, 1867.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. VI. AUGUST, 1868. No. 2.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—TUBERCULOSIS. A Discourse delivered before the Academy of Medicine, Paris. By M. BARTH. Translated from Revue de Therapeutique by L. J. FRAZEE, M.D., Professor of Materia Medica and Therapeutics, in the Kentucky School of Medicine.

GENTLEMEN: After the letter of M. Lebert, who has restored to the *Clinic* a portion of its rights in the question of Tuberculosis, after the discourse of M. Guéneau de Mussy, who has worthily defended the work of Laënnec and the French School, I would abstain from speaking, did I not feel impelled to offer the feeble tribute of my experience.

In order to economize the time of the Academy and not fatigue their kind attention, I will leave aside the question of the inoculability of tubercle, and the contagation of phthisis, upon which I had proposed saying a few words, and shall confine myself to a single pathological doctrine, incidentally, raised in this debate upon the nature of tubercles and which seems to me capable of more ample development. I wish to speak of the pretended *caseous pneumonia.*

We recognize at the present day, and all pathologists admit, the existence of lobar pneumonia, lobular pneumonia, catarrhal or bronchial pneumonia, pleuro-pneumonia, acute pnuemonia and chronic pneumonia; and behold here comes another, *caseous pneumonia.*

Neither Boyle, Laënnec, Louis, nor Andral make any mention of this. These great observers have never seen it either clinically or anatomically. They have never observed it either at the bedside, or upon the cadaver. They have admitted and carefully described the gray granulations disseminated through the lungs, sometimes in groups, sometimes isolated. They have pointed out tuberculous infiltration, more or less considerable, of one of the lobes of the lung under the form of a grayish, compact mass; finally, they have described, and all pathologists with them, tubercles in mass, sometimes becoming indurated by the deposition of calcareous matter, more frequently softening, forming a slough and leaving, after their evacuation, irregular cavities called tuberculous caverns.

According to the new doctrine, this last form must have been entirely misunderstood as to its essential character, and that which Bayle, Laënnec and Louis, took for tubercles, that which, with the immense majority of modern pathologists, constitutes tubercle, *par excellence*, can only be a form of chronic pneumonia decorated with the name of *caseous pneumonia.*

Whence comes this caseous pneumonia, what reasons have we for its existence, upon what reasons can we rely for establishing this new morbid condition upon the ruins of the pathology of tubercle, such as we have been taught by the great clinical teachers of the French school?

This *caseous pneumonia* comes to us from Germany, whence come many good things, but where also originate cloudy conceptions and forced systems. Of which

see the proof in a doctrine which leads a German author to announce this singular proposition, that the *greatest danger which threatens most phthisical patients is that of becoming tuberculous.* And this other, not less surprising, *that there exist many cases of phthisis, in which we find not a single tubercle in the lungs. Caseous pneumonia* comes to us with the attraction of novelty, with pretensions to progress and the prestige which attaches to this word. But we must not forget, as a general proposition, that all which is new is not necessarily progress:

> Multa renascentur quæ jam cecidere, cadentque
> Quæ nunc sunt in honore.

Let us not forget either that the present is not definitive; that the *present* has no right to ignore the *past;* that that which is the *present* to-day will be the *past* in ten years, maintained as true, or abandoned as false, according to the intrinsic merit of the thing, and unfortunately, also, according to the fluctuation of scientific opinions:

> ——————————cadentque
> Quæ nunc sunt in honore.

I hope it may be so in regard to caseous pneumonia, for I think this an erroneous conception, which has a tendency to repel true notions of pathology, and to prevent rigorous observations at the bedside. In a general pathological point of view, what is there in common between phlegmasial exudations and tubercular products—the first being characterized generally by their tendency to absorption; the turbercular products, on the contrary, being signalized ordinarily by their permanence and their multiplication; the first seldom ever infiltrate (except in the bones) calcareous molecules; while nothing is more common than the calcification of tubercles, sometimes in the lungs, sometimes in the bronchial ganglions?

In like manner, in a special pathological point of view,

I ask, what is there in common between this pretended caseous pneumonia and true inflammation of the parenchyma of the lung. I see nothing in the tubercle of Laënnec which resembles pneumonia, either in its clinical history or in its pathological results. Above all, if we take a glance at the *relative frequeney* of true pneumonia and of the pretended caseous pneumonia, we will see the one, phthisis, multiplying in the hospital wards, to such an extent, that among fifty patients, for instance, we may count twenty to twenty-five cases of phthisis and not more than one or two of veritable pneumonia. We may add, that true inflammation of the lung is not equally prevalent at all seasons of the year; thus, of sixty cases of pneumonia presenting themselves in the course of the year, there will be more than half of them belonging to spring, the rest being scattered through the other nine months of the year; while phthisis presents itself in desolating frequency about equally through every season.

See, too, the difference between the two affections in regard to the influence of climate and especially altitude: the rarity of phthisis at great heights, compared with the frequency of pneumonia. Take, for example, a point like Mexico; here of 12,000 patients registered in the hospital service of Dr. Jimenez, 143 only were cases of phthisis. In contrast with this low figure, we learn from the bulletin of the Statistical Society of Mexico, that of a total of 27,799 deaths occurring within a period of four years, there were 3,666 deaths from pneumonia. Pneumonia, adds Dr. Jourdanet, is at Mexico of extreme frequence, while phthisis pulmonalis is very rare, seldom showing itself, except among the indigent; so that it is impossible to see more clearly than at Mexico the contrast which exists between pulmonary tuberculosis and pneumonia. But, without ascending so high, without going

so far to search for proof, do we not see around us the same differences? In Sologne, for example, pneumonia, Dr. Soulez, of Romorantin, writes me, is very frequent, especially in the spring and autumn, while phthisis is excessively rare, so much so, that in a practice of seven years, he has scarcely seen two cases of phthisis among the inhabitants of the country; nearly all of the cases observed having occurred among strangers who had brought the seeds of the disease to this country with them, or among those who returned after having emigrated to large cities and there contracted the disease, as a result of excesses, or that prostration which accompanies misery.

In further pursuing this subject of turberculosis and true pneumonia, we rarely see the latter at the summit, much more frequently posteriorly and at the base of the lung, while the tubercle so frequent at the apex of the lung, both anteriorly and posteriorly, is seldom ever seen exclusively in the inferior regions of the lungs.

As to their *anatomical characteristics*, in true chronic pneumonia, (which, as we have already said, is extremely rare), the pulmonary tissue is always, in a considerable portion of the lobe, dense, firm and resistant; while the surface of a cut made into it is of a slaty gray color, intersected by whiter traces of fibrous tissue. In the pretended caseous pneumonia, on the contrary, we see masses varying in size, from that of a hemp seed to that of a large pea, here still firm, crude, yellowish, there softening even to the point of suppuration, and leaving irregular cavities; elsewhere penetrated by calcareous matter and terminating in a solid, stony mass, incrusted in the substance of the pulmonary tissue. Where can we see true chronic pneumonia causing calcareous deposits or burrowing the lung with suppurating cavities?

If the tubercular masses of the lungs are nothing but

a form of pneumonia, then the tubercular masses of the cerebrum and of the cerebellum constitute but a special form of inflammation of the brain, and in the future must be designated by the name caseous cerebritis or cerebellitis. Those who see nothing in tubercle but a chronic inflammation rest their opinion upon the authority of Broussais; but, as has already been remarked by M. M. Béhier and Guéneau de Mussy, Broussais never maintained that tubercle was itself a local plegmasia; but considered, systematically, irritation and inflammation the most ordinary exciting cause of a large number of organic lesions and, as a consequence, also of tubercle.

It would certainly be very singular, if bronchitis, so rare at the apex of the lungs, should be the cause of tubercles so frequent in this location, and that bronchitis at the base, infinitely more frequent, should seldom ever be followed by tubercular deposits in the inferior regions of the lungs.

What a difference again between these two affections in regard to *age*. True pneumonia is at least as frequent in mature age and among the old, as in the young or during the first years of life; phthisis, on the contrary, so common during youth and adult age, diminishes in frequency in proportion to the age of the patient. We may further remark, that pneumonia at the apex of the lung is relatively more frequent in advanced age; that at the base decidedly more common in the middle age; and yet tubercles, so frequent at the summit, are seldom ever met with at the base.

In an *etiological* point of view, we see true pneumonia, like most of inflammations, developed more especially as an immediate consequence of cold. On the contrary, we see phthisis produced principally under various conditions capable of enfeebling the system and not manifesting itself positively by appreciable local lesions until the organ-

ism has sunk under the prolonged action of these causes.

Among the etiological conditions favoring the development of pulmonary tubercles, none will doubt the existence of a *hereditary predisposition*. But if tubercle is nothing but a chronic pneumonia, we are forced to the conclusion that chronic pneumonia is hereditary. Where is the pathologist who would dare to promulgate such an opinion? We may add, incidentally, that it is not rare, in a phthisical family, to see the infant die of tubercular granulations of the meninges, and the mother of the pretended caseous pneumonia, and *vice versa*: clinical facts, which do not coincide with the view that these two maladies are but varieties of the same morbid condition.

In pursuing, in a clinical point of view, the comparison between tuberculosis and pneumonia, in the course of their development, there is nothing in tuberculosis resembling pneumonia, either in its first manifestations, in its symptoms, its progress, its duration, its termination or the morbid changes with which it is complicated.

In pneumonia, the *sputa* are viscid of a rusty color, afterwards becoming discolored and more fluid as resolution progresses or assuming the aspect of a brownish diffluent liquid.

In phthisis, on the contrary, the sputa, at first very slight, then salival, become mucous, opaque, more and more puriform, in the form of irregular disks, partially sinking in water, and sometimes bringing with them chalky particles or real calcareous concretions. Where then, I repeat, is there anything similar in pneumonia?

In pneumonia there is *fever* from the commencement to the termination. In tuberculosis, most usually, fever does not exist during the first weeks, and in some cases, it is scarcely perceptible during the greater part of its course.

Again, compare the *condition of the blood* in these two

affections, of which we are attempting to establish the differential characteristics. Among consumptives, the proportion of fibrine often remains normal during the first stages of the disease, but rarely passes the physiological limit, at the time the tubercles soften and perforate the bronchiæ and scarcely reaches the proportion of four or five to the one thousand, when the lung has become cavernous, while in pneumonia the proportion of fibrine constantly passes the normal limit, reaching most frequently the proportion of six, eight and even ten to the one thousand.

As to *auscultatory signs*, see what a radical difference between the two diseases which we are comparing. In pneumonia, the first phenomenon perceptible by the ear applied to the chest is the fine crepitant râle, which is replaced by bronchial respiration in proportion as hepitization advances; this bronchial respiration being often followed in turn by the crepitant râle, called the *returning râle*, when the pneumonia terminates by resolution or continuing indefinitely, if by rare exception the inflammation becomes chronic.

There is nothing similar in tuberculosis. At first there is no phenomenon appreciable by the ear, then prolonged expiration, interrupted or jerking expiratory murmur; later dry, crepitant râles, which become moist, giving rise to bubbles more and more distinct and finally cavernous respiration.

If we follow these two diseases in their most ordinary *duration* and *termination*, we will see pneumonia run through its different stages with promptitude. In eight or nine days, ten or twelve at most, the case is decided, most frequently by a cure and the return of the lung to its normal condition, much more rarely by death due either to suppuration or to an extension of the disease. It is especially rare to see the inflammation assume the

chronic form, the characteristics of which we will study hereafter. In the pretended caseous pneumonia, on the contrary, we see the malady develop itself slowly, being arrested with difficulty in its evolution, being cured in proportionally few cases, usually becoming gradually and slowly more aggravated and terminating at the end of three, six, twelve, or eighteen months, most usually by death, after causing considerable destruction of the lungs.

As to the most ordinary *complications*, may we not reasonably say that, of ten cases of phthisis, there will be six seized with diarrhœa in the advanced stage of the disease and two or three affected with chronic ulceration of the larynx, while true pneumonia, whatever may be its duration, is seldom ever complicated with either laryngitis or ulcerating enteritis?

The two affections, which we are comparing, are no less different in regard to their *seat* and their *anatomical characters;* and this matter of the seat, by predilection of different diseases, is of more importance than is supposed. Thus cancer, so common in the stomach, is seldom ever primarily in the lung, while tubercle, so common in the respiratory organs, is seldom ever seen in the stomach; and these differences are remarkable in regard, not only to different organs, but also in regard to different portions of the same apparatus. Thus, in the intestinal canal, tubercle affects especially the small intestine, while cancer usually has its seat in the large intestine; and, in the uterus and its appendages, tubercle invades the fallopian tube or the internal surface of the womb, while cancer attacks especially the neck. Let us see the most usual *modes of invasion* of phthisis pulmonalis at the onset. Here, an individual is taken with hæmoptysis, which nothing has caused us to anticipate. The hæmorrhage ceases at the end of a few days, but the cough persists; later, opaque sputa make their appearance and

the patient goes on coughing, expectorating and wasting away, until death ensues. Where is there anything here resembling pneumonia?

There a young girl presents signs of gastric derangement; she eats but little, digests badly, becomes pale, emaciated, and, from this time forward, the malady follows its course as in the preceding case. Again, it may be a youth who, having grown immoderately, loses his embonpoint and his strength, and, without any appreciable cause, without fever, he commences coughing; sometimes after he expectorates and lapses by degrees into consumption.

Again, the same cough may develop during the pro-progress of a diabetes; and this cough, rare and dry at the onset, becomes more frequent, then gives place to an opaque expectoration, while the wasting proceeds in a progressive march towards a fatal termination.

Where is there, in all these cases, anything which bears a comparison with the first manifestations of pneumonia, either acute or chronic?

Let us follow these two maladies in their *march* and effects. Pneumonia proper, and even lobular pneumonia, obliges the patient to take his bed from the first day of the invasion, while that which is styled caseous pneumonia, permits the patient to be up, during two-thirds of its course.

I have said, and I repeat, that in phthisis the *cough* is for the longer time dry, and that it is not until the end of a certain time that it is attended with expectoration. What is the value of this fact? What is its importance in elucidating the subject under consideration? It is this: the tubercle, from the commencement of its development in the substance of the lungs, acts as a thorn, irritating by its presence and provoking cough. It is not until later that the neighboring bronchiæ become

inflamed and secrete mucus, then become perforated, giving exit to the softened tuberculous matter which is expectorated. In pneumonia, on the contrary, the cough is humid from the beginning, and, in twenty-four to thirty-six hours, it is attended with characteristic sputa which have nothing in common with tuberculous sputa.

Does it follow that we regard inflammation as absolutely foreign to tuberculosis and that we reject every inflammatory element in the evolution and progress of phthisis pulmonalis? Assuredly not. We admit, in certain cases, the influence of previous inflammation in favoring the ulterior development of tuberculosis; but we maintain that it is not most frequently the case, and that phthisis is usually the result of other causes. Further, we admit a form of pulmonary engorgement giving rise, during life, to symptoms of pneumonia and tuberculosis and which exhibits, after death, the fibrinous exudations of inflammation, combined with infiltration of tuberculous matter. Again, we admit, an inflammatory condition occuring around the tubercle at a certain stage of its development, when, by its presence, it irritates the surrounding pulmonary tissue and compresses and perforates the minute bronchial tubes. But is it necessary, in this ulcerative process, to forget the essential element —the tubercle—that is to say, the thorn which produces the irritation? It is as if, in the case of the penetration of the living tissues by a ball, we should simply look at the surrounding inflammation, leaving out of view the foreign body by which it was produced and kept up.

But, if there exists no analogy between real pneumonia and the pretended caseous pneumonia, either in a clinical or an anatomical point of view, upon what authority can we admit the existence of this latter morbid condition? It is, say they, the microscope which settles this question; it is this instrument which exhibits

in the caseous tubercle the elements constituting inflammation.

But is this oracle infallible? I do not here pretend to ignore the utility of the microscope, and the merit of those who use it for the advancement of science. I have myself remarked the numerous advancements which medicine owes to the employment of this valuable instrument, which has enabled us to determine the true nature of certain morbid changes before little understood, and to reveal others which, without it, must have ever remained unknown.

But it must not be forgotten that the images so distinct and so constant, which it shows us in the structure of the tissues and the normal products, have no longer these precise forms and distinct characteristics in the pathological changes which take place, presenting great variations in what are termed morbid products formed in the economy. Again, the apparent images furnished by the microscope should not always take precedence of clinical teachings and those of experience. There are certain things which can be better judged by the eye than by the microscope, because it is necessary to see them in mass and in their whole; the eye distinguishes better by simple inspection, than under the field of the microscope, white mucus from puriform mucus, or from the purulent liquid of a vomica.

Have the deductions drawn from microscopical examinations of morbid products that fixed character, that constancy which would make them authority? Upon this subject the past furnishes us lessons which should not be forgotten.

A large number of our colleagues will remember that memorable discussion upon cancer, in which M. Velpeau, our regretted master, struggled so valiantly and so victoriously and in which we offered him our feeble assist-

ance in defense of sound notions derived from the *clinic* against the exaggerated inductions, derived from the microscope and which were also called progress.

It was then maintained, that there was no cancer except where there was to be found what was denominated the characteristic cell, which was decorated with the name of *cancer cell.* Certain cancers of the lip, of the tongue and even of the uterus, not presenting this pretended characteristic cancer cell, were only benign tumors and cancroid of the face was equivalent to a wart. What has become of these notions? What has to-day become of the cancer cell?

This cell is no longer spoken of and the opinions of M. Lebert are forgotten, too entirely forgotten, in my judgment, for there will always be a difference between the gravity of cancer composed in mass of ovoid cells and that in which the flat cells of epithelial cancer predominate or the fusiform cells of fibro-plastic tumors. They said further: You pathologists are not able to decide whether a morbid product is homologous or heterolgous; the microscope alone can determine it. To-day exactly the reverse is said: In a micrographical point of view there is no longer anything of a heterologous character; it is all sumed up into cells termed epithelial, so that a poor unfortunate affected with cancer of the intestine or the lung, has nothing more than a mass of displaced epithelial cells. It is simply a displacement.

But I return to the tubercle. For ten years they said to us, through the microscope, that the miliary granulations, which constitute a special form of tuberculization of the lungs, were not tubercles, and to-day they pretend, always according to the microscope, that the granulations alone constitute the true tubercle, and that the tubercles in mass, which Laënnec and his successors styled crude tubercles, are nothing more than chronic pneumonia.

What faith can we place in deductions so absolutely contradictory? Is there anything more fixed in the doctrines of the micrographs, upon the elementary constitution of tubercle? Well, there is nothing absolute. In a paper, published in 1854 in the Archives de Medicine, Doctor Mandl, making a résumé of the works upon tubercle, published since the employment of the microscope, about the year 1834, enumerates, by order of date, all the opinions successively put forth upon the intimate structure of this morbid product. In this space of twenty years he counts up to thirty-four diverse opinions, comprising the various shades of detail. Even a short analysis of these various opinions would be too long to enumerate, too tiresome to hear; by arranging them in groups, according to their etiology, one may assure himself that tubercle has been considered by turns as constituted of fibres, of cells more or less perfect, of nuclei or abortive cells incompletely developed, of atrophied cells, of specific corpuscles, of epithelial cells.

To all this let us add, that many authors have successively put forth opinions differing from their first deductions.

Thus Virchow himself, after having considered tuberculization as a peculiar transformation of the elements of our tissues, rejects afterwards the expression of *tubercular metamorphosis* to replace it by that of *caseous metamorphosis;* and finally, with Reinhardt, sees nothing in crude tubercle but a product of chronic inflammation.

From all these diverse opinions can we draw any philosophical deduction? It is seen in penetrating into the intimate structure of pathological products, in studying them in their constituent elements, we find them resolved into granulations, into nuclei, into cells more or less developed, more or less manifest, permanent or transitory, becoming modified, altered by a deposition of

fatty matter, atrophied and dissolved, leaving nothing but débris, vestiges scarcely discernible.

Thus it will be comprehended that, at a certain stage of their existence, various pathological products, known under the name of morbid exudations, though widely differing in nature, present nevertheless, among themselves, some analogy in their constituent elements, and thus the tubercular products may in certain cases, in a histological point of view, be confounded with those of inflammation. And, in generalizing further, we arrive at this result: that if we were unable to judge of lesions, except by their intimate structure, we would find the same elements in the exudations purely inflammatory, scrofulous, tuberculous, cancerous and typhic, so that that which ought to enable us to distinguish better, terminates in inextricable confusion.

It is just so in appreciating monuments, if in classifying them we only take notice of the elements of which they are composed. We would see in the *Arc de l'Etoile*, the Palace of Industry and Notre Dame simply that they were composed of stone; a bridge upon the river would not differ from a prison, because each would be built of quarried stones; a well would be equivalent to a tower, since each is composed of similar stones and further than this disposed in the same manner.

This, I repeat, is going too far, not to be willing to judge of pathological lesions (and especially of morbid products), except by their anatomical elements visible under the microscope. The microscope only permits us to see the form and some other physical characters of these elements; it can not appreciate their intimate qualities. These variable qualities are, assuredly, determined by a diathesic condition, from which results, notwithstanding their apparent resemblance, those elements constituting here, lesions of a benign character and without

gravity; there, lesions grave and malignant. Let us value a little more, then, that which we see with our eyes, and that which we learn from experience, founded upon an attentive observation of facts during life and after death.

Thus, to appreciate properly the various morbid products, let us bring to our aid, at the same time, all the means, for forming a judgment, at our disposal; to the physical character of lesions appreciable by our senses, aided, when necessary, by the various instruments which physics has placed at our disposition, let us add the estimation of their seat, the tissue that they affect, their march, their successive metamorphoses, their clinical characteristics and concomitant symptoms, and we will in the greater number of cases be enabled to say: this is cancer and that is tubercle, *whatever* may say the microscope.

In applying these principles to the question before the Academy, we think we may conclude, that the pretended caseous pneumonia has no claim to an existence, and that the pathology of tubercle still subsists to-day as established by our immortal Laënnec and his successors.

ART. II.—TREATMENT OF POTT'S DISEASE. By CHARLES McLEAN, M. D., of Baltimore, Md.

During a conversation some days since, a distinguished surgeon of this city gravely asked me if I "had confidence in the treatment of Pott's disease by pressure and the use of Taylor's supporter." Within knowledge of such a case as I report below, the question startled me. One might almost as well ask another if he had confidence in Smith's anterior splint, an apparatus which, for efficiency and simplicity, should immortalize the inventor.

M————, of Monument street, a healthy, active

child of some eleven years, was attacked, in 1862, with occasional pains in the back, obscure and indefinite, but sometimes severe. For months, Pott's disease was not suspected, possibly did not exist till it was developed by a fall which the child received that autumn. In the winter and summer of 1863, she was treated by confinement to the prone position, and in less than a year, was pronounced "well." In a short time, however, a tumour was discovered in the lumbar region, which, on being opened, discharged healthy pus freely. She was, of course, remanded to bed, but the opening did not heal, and before long a granular phosphate, in large quantities, was mixed with the pus. Ordinarily this phosphate appeared more like a secretion than an exfoliation, but occasionally there would occur some days of fever and pain, when the discharge became more or less sanious and a piece, larger or smaller, of organized cellular bone would be exfoliated.

Although this patient had the advantage of unlimited means and the most sedulous attention, was moved about the lawn and porch in a hand-carriage, by the autumn of 1864, she had become so much reduced by the discharge, by want of exercise and its accompanying loss of appetite, with a disposition to hectic, that it became a necessity to improve the appetite by more exercise. As the lumbar vertebræ alone were affected, I set her to crawling on her hands and knees, with marked and immediate improvement in the spirits and appetite. Had she continued to crawl she might have fared better, but as she was advancing in age and had returned to the city, the posture attracted so much attention that she could not be induced to continue it.

Notwithstanding every remedial measure in food, drinks and medicine, she now failed rapidly and none of her former medical attendants or her friends thought she

would live over a few weeks. At this critical period and under such unfavorable circumstances, I called in Dr. C. F. Taylor, of New York, with whom I became professionally associated. As soon as a supporter could be manufactured, it was applied, and the improvement was so rapid that in a few weeks she could walk to the dinner table *and enjoy her meals.* The cramps in her legs, the pains in her back and sides gradually subsided, and from that time she has steadily improved in strength and advanced in hight and fatness, in despite of an occasional febrile attack. The medical treatment has been such as she previously received, tonic—the necessity for sedatives no longer existed.

The accompanying diagram will show: No. 1, the actual condition of the spine in December, 1866, when the apparatus was applied: No. 2, its condition this spring: and No. 3, a supposed natural line, the two first measurements taken by fitting a pasteboard model to the spine, patient prone, the forehead resting on the arms.

The sinus continues open, but the discharge is less and for months there has not been any exfoliation. It is true, this patient is not well and cannot be considered safe while the abscess exists; it has, indeed, become a grave question whether this should be interfered with—a question to be decided by the collective wisdom of consultation. I feel disposed to wait; such abscesses have continued longer than this, and healed, with other modes of treatment, and it is possible that stimulating injections might excite a dangerous inflammation at her critical age, when the whole system, in despite of this obstacle, is being rapidly developed.

Admit that this case is tedious—we must recollect that

it was snatched almost from the grave—that the patient has had for three years the comfort of hope, the happiness of enjoying the open air, the society of her friends, the pleasure of walking and riding, the ability to resort to watering places, all of which are additional remedial means. If any other mode of treating Pott's disease has ever succeeded in removing deformity to the extent faithfully shown in the diagram, I should be happy to be referred to the case. No stranger would now suppose that this young lady wears anything more than the ordinary dress of one of her age. But, to hide the supporter more completely, we are now having one so constructed as to form a part of the corset.

I believe that, next to the use of Dr. Taylor's supporter, the best treatment for this disease is the prone position—*if the patient can bear it!* But, it is a great mistake to suppose that this will, like the supporter, prevent deformity. Muscular action, as well as the weight of the head and shoulders, causes this, as proven by the above case. I do not believe the patient was in an erect or even semi-erect position from the time of the opening of the abscess to the application of the brace, yet see the deformity! Few individuals, young or old, bear total want of exercise, and crawling cannot be depended on, as the young will not confine themselves to it. It is annoying to the older and, moreover, is useless where the disease is high in the dorsal or involves the cervical vertebræ.

Before I close, I cannot avoid mentioning the advantages the system offers to persons of moderate means. A few minutes' time of the mother, each day, and an occasional visit to the surgeon being all the attention necessary, except the general care to avoid too much or too violent exercise, or too long continuance in the erect posture.

ART. III.—A SEVERE CASE OF TRICHIASIS. By PAUL F. EVE, M.D., Professor of Surgery in the University of Nashville, Tenn.

I have recently treated a most distressing case of this affection. The patient, a Mr. New, aged 65, came from Smith county, this State, in pretty fair health and quite vigorous for one of his years. He arrived here the first day of April last to consult me for *entropion*, with trichiasis of both upper lids. His eyebrows were unusually projecting and the eyes deeply buried in the head and, therefore, of difficult access in operating. For two years the patient had been suffering from ophthalmia—sore eyes as it is so commonly called—and was now nearly blind, suffering greatly from the mechanical irritation of the cilia rubbing against the globes of the eyes. The next day, after an active purgative, spare diet and frequent local tepid bathing, a large oval fold of the skin in each upper eye-lid was removed, and the wounds closed by two sutures on each side. In two weeks, Mr. N. returned home, seeing very well and hopeful of the permanency of the relief.

On the 15th of June, just two months after leaving Nashville, the patient, to my great surprise, called again to consult me, now much worse than ever, having complete and permanent entropion with trichiasis of all his eye-lids, the two lower as well as the upper, great contraction of the orbicularis muscles and palpebral opening, and so blind that he had to be led to my office. The integuments over the upper lids at the site of the operation of April, while not actually loose, allowed the full inversion of their edges, the cilia being turned in upon the balls, creating painful irritation, intense inflammation and threatened ulceration of the cornea.

After considering the various suggestions made for the relief and cure of cases like the one now being described, it was determined to perform the operation proposed by Prof. Jaëger, viz: excision of the inverted cilia, with a portion of the edge of the lids containing their bulbs. That of Sir Philip Crampton, of Dublin, with its modification by Mr. Guthrie, of London, of perpendicular incisions into the lids and their subsequent forced eversion, seemed too formidable and complicated; and the application of escharotics, particularly pure sulphuric acid, so highly recommended, would be too hazardous, as all the lids in this case were affected alike. We read in Prof. Gross' great work on surgery, vol. 2, p. 287, "when all the cilia are turned in, the procedure, which I generally adopt, is to inclose them in two horizontal incisions, extending the whole length of the lid, from one end to the other." What then becomes of the puncta; and why *two* incisions when one is sufficient to remove the edge with the hair bulbs? We agree with him, however, that every one of the latter must be destroyed to effect perfect success.

My patient, unfortunately, refused to take ether, and the excision of the edges of the four lids, was a very painful operation, especially as they were still highly inflamed. In the lower lids this was effectual, but in the upper, it was found necessary to have recourse once or twice to the fine hook and scissors to remove a straggling hair and bulb overlooked in the first operation. This was performed with both knife and scissors, cutting away the cilia and their bulbs by repeated small incissions, as recommended by Dr. Jacob.

Mr. New became homesick and persisted in returning home on the sixteenth day after the last operation, relieved but not cured. I sent by him a letter to his family physician, with instructions to watch the case and re-

move from time to time any cilia which might reäppear.

From the severity of the case, the obstinate contraction of the orbicularis muscle, the rapid and violent return of the affection in all the lids, and the painful operation performed, it has been thought worthy of a report.

I regret now not incising the external angles of the lids to the extent of half an inch on both sides. Sir Wm. Lawrence has declared that in complete inversion, it is difficult, if not impossible, to accomplish a perfect cure, and my case would seem to confirm his opinion.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—THE HISTORY OF EIGHT CASES OF PLACENTA PRÆVIA. By T. GAILLARD THOMAS, M. D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York.

No variety of abnormal labor requires at the hands o the obstetrician more careful consideration, mature judgment and prompt action, than that which is complicated by unavoidable hæmorrhage. The placenta being attached so near the os internum that the dilatation of this part necessary involves its detachment, the very process by which the mother gives birth to her child, tends to destroy not only its, but her own, life. Fortunately placenta prævia is not of common occurrence. Many a practitioner will pursue his vocation for years without meeting with a case. Yet so serious are its results that, although it occurs not oftener than once in five hundred cases, which is the proportion computed as correct by some authors, it exerts a marked influence upon the statistics of obstetrics. According to the calculation of Sir James Simpson, based upon the analysis of 399 cases, one-third of the mothers and over one half of the chil-

dren are supposed to have been lost. The reasons for this great mortality are probably the following:

1st. The dilatation of the cervix, for the passage of the child, unavoidably exposes both mother and infant to great danger from placental detachment and hæmorrhage.

2d. Repeated hæmorrhages occuring during the ninth month, as the os internum dilates under the influence of painless uterine contractions, which then occur, the woman, at the time of labor, is usually exsanguinated, exhausted and depressed, both physically and mentally.

3d. Profuse flooding generally occuring with the commencement of labor, the medical attendant is often not at hand, and reaches his patient only after a serious loss of blood has occurred.

The dangers attendant upon the condition develop themselves most markedly in the first stage of labor, and death not infrequently occurs before the os externum is dilated to a size not greater than a Spanish dollar. At this time surgical interference, if resorted to to accomplish delivery, often destroys the lives which it is intended to save. The hand forced too soon through a rigid os will often rupture its walls, while a delay, without the adoption of the means capable of controlling hæmorrhage will necessarily favor the occurrence of a fatal result.

On the other hand, should full dilatation of the os have taken place, and the patient be exhausted from sanguineous loss, the practice of rapid artificial delivery will not rarely be followed by fatal prostration.

There is no question, in my mind, of the fact that, when it becomes the recognized practice to resort to premature delivery as a prophylactic measure in these cases, the statistics which have been quoted will be very much improved upon. By resorting to this measure, we should be dealing with a woman who is not exhausted by repeated hæmorrhages; the obstetrician would be in attendance at the commencement of labor and he would be able by hydrostatic pressure to control flooding, while the same pressure accomplished rapidly and certainly the first stage of labor.

When this step has not been deemed advisable or, from any cause, labor has absolutely set in, complicated by unavoidable hæmorrhage, there are two plans by which we may endeavor to save the lives of mother and child.

1st. We may alter the state of affairs at the cervix, so that dilatation may occur without hæmorrhage.

2d. We may hasten the delivery of the child, so as to render a *gradual dilatation* of the cervix unnecessary.

The means at our command for accomplishing these indications may thus be tabulated and presented at a glance:

MEANS FOR PREVENTING HÆMORRHAGE WHILE THE OS DILATES.

1. Distension of cervix by bags of water.
2. Evacuation of liquor amnii.
3. Partial detachment of placenta.
4. Complete detachment of placenta.
5. The tampon or colpeurynter.

MEANS FOR HASTENING DELIVERY OF CHILD.

1. Ergot.
2. Version.
3. Forceps.
4. Craniotomy.

The following cases will illustrate these remarks:

CASE 1. Mrs. W—, aged 26, primipara, in good health, was suddenly taken with hæmorrhage three weeks before full term. She sent for me in great haste, but being occupied, I was unable to go to her, and she was seen for me by my friend, Dr. Reynolds. He discovered that she had lost a few ounces of blood, but that the flow had ceased. Three days afterwards she was again affected in the same way, the flow ceasing spontaneously. About a week after this she was taken during the night with a flow, which was so profuse as to result in partial syncope when she endeavored to walk across the room. I saw her early the next morning, found her flowing slightly, and upon vaginal examination succeeded in touching the edge of the placenta through the os, which was dilated to the size of a ten cent piece. Later in the day, Drs. Metcalfe and Reynolds saw her and agreed in the propriety of premature delivery. In accordance with this consultation, at 7 P. M. I introduced into the cervix, with considerable difficulty and by the employment of some force, the smallest of Barnes' dilators. This in twenty minutes was followed by the next larger dilator, and in an hour by the largest. Dilatation was rapidly accomplished, but instead of removing the largest bag, I left it in the cervix until

ten o'clock that night. Expulsive pains coming on at that time, I removed it, when the head rapidly engaged, and before morning Mrs. W. was safely delivered of a living girl. The placenta followed rapidly, and both mother and child did well.

Remarks.—In this case, although hæmorrhage continued slightly throughout the labor, it never amounted to a sufficient quantity to endanger the lives of either mother or child. The implantation of the placenta being lateral, cessation of the flow occurred as the head advanced and made firm pressure against the bleeding surface.

As to the fact of the case being one of placenta prævia, there could be no doubt. The placenta was distinctly touched by Drs. Metcalfe, Reynolds and myself; one lip of the cervix was disproportionately developed and the placental murmur was much more distinct over the symphysis than near the fundus.

CASE 2. Mrs. D., a lady over forty years of age, whose last pregnancy had been completed fourteen years previously, was placed under my care by Dr. Metcalfe. She was an excessively nervous and hysterical woman, but in good health. About three weeks before full term she was taken with hæmorrhages, which lasted for very short periods, recurred at intervals of four or five days, came on without assignable cause and ceased without remedies. The cervix was not dilated and no physical signs of placenta prævia could be detected, either by vaginal touch or auscultation. Dr. Metcalfe saw her in consultation, and as all the rational signs of placenta prævia were present, and our patient was suffering from the repeated losses and was becoming extremely nervous and apprehensive, we concluded to bring on premature delivery. Accordingly at 11 A. M. I introduced a large sponge tent into the cervix, and at 3 or 4 P. M. removed it and succeeded in inserting Barnes' smallest dilator. At 9 that night the cervix was fully dilated at the expense of very slight hæmorrhage, and Dr. Metcalfe then being present, I removed the bag, intending to leave the case to nature, provided no flow occurred. Previously during the evening, upon changing the bags, I had distinctly touched the head as the presenting part, but now to my surprise, I found that the bag impinging on this part had caused the child to revolve in the liquor amnii and that the breech was now within the os.

We decided under these circumstances to deliver at once. The patient being under the influence of ether, I drew down the legs and delivered a living female child. The placenta followed in fifteen minutes, and both patients did well, the child rapidly recovering from an injury to one of its legs, received during delivery.

Remarks.—In this case the placenta was very nearly centrally attached. At one side of the os internum, a space of only two fingers breadth was free. Through this, digital examinations were made and the hand pushed to seize the feet. The first stage being accomplished by means of hydrostatic dilators, no hæmorrhage attended it; but without this means having been employed it is highly probable that profuse and dangerous flooding would have occurred.

CASE 3. Bridget B—, an Irishwoman in the lowest walks of life, was under the care of two of my students. Whether any premonitory hæmorrhages had occurred I could not ascertain. When I saw her, the os was nearly fully dilated, and although considerable blood had flowed, the woman, who was quite robust, did not appear to be suffering from the loss. The placenta could be distinctly felt, laterally attached, but not very near the cervix. Feeling confident that evacuation of the liquor amnii would result in compression of the placenta by the head to such an extent as to check hæmorrhage, I resorted to this plan, predicting with some confidence that the child whose heart-beats could be heard would be delivered alive.

These anticipations were only in part fulfilled. The hæmorrhage was so much diminished that no further interference was necessary, but the child, which was delivered some hours afterward by the gentlemen in attenddance, was still-born.

Remarks.—It appears to me that a better plan in this case would have been to have practised version. The os was dilated, the liquor amnii present and the woman strong. All things were favorable so far as she was concerned, and I do not doubt that by this operation we would have delivered a living child. This opinion I do not base upon my experience as to the fœtal mortality after version, but upon the fact that the pelvis was so capacious and the soft parts so relaxed, as to have warranted the belief that such a result would have occurred.

The woman, I believe, recovered without accident.

CASE 4. Mrs. L—, a multipara, aged thirty-five years,

was placed under my care by Dr. W. H. Van Buren. Although not yet advanced much beyond the seventh month of pregnancy, she had often-recurring attacks of hæmorrhage which behaved precisely like those of placenta prævia. The patient was intractable, fretful, and unreasonable to such a degree that I found much difficulty in examining very completely, and to this circumstance I, in part, attribute the fact that no physical signs of the condition could be detected. After attending her for a week I was suddenly called to her and found that she had lost so much blood as to be alarmingly prostrated. I at once introduced a Sims' speculum and applied a firm tampon of wet cotton. This was removed in twelve hours and replaced by another. Upon the removal of this, or rather some time before it, full doses of ergot were administered, and in a few hours a still-born child, with placenta and membranes, was cast off. The mother slowly recovered.

CASE 5.—I was sent for in great haste by Dr. J. B. Reynolds to see with him Mrs. B—, a very thin, delicate, primiparous woman, who, without premonitory hæmorrhage, had been taken at the commencement of labor with alarming flooding. In his note Dr. Reynolds stated that he feared that the death of the patient would occur before my arrival, unless I made great haste.

Upon my arrival I found the patient very pale and almost pulseless. The os was dilated to about the size of a Spanish dollar, but was completely dilatable, and hæmorrhage was going on actively. Upon consultation we agreed that forcible delivery in her prostrate condition would result in exhaustion and death, while the rigid and contracted state of the soft parts would offer little hope for saving the child. In preference to immediate delivery we anæsthetised the patient with ether, and I, introducing my whole hand into the vagina, slowly but completely dilated the cervical canal, ripping off a portion of the placenta at its lowest point of attachment. Stimulants were then freely given, with opiates. The head fortunately soon descended, and the patient was delivered by Dr. Reynolds in about three hours. We had told the patient's friends that the child would be still-born, but to his surprise Dr. Reynolds found in it traces of life. He tells me that he resorted to active means of resuscitation for half an hour, before a distinct respiratory effort could be detected. At last, however, he succeeded in restoring it.

The mother made a very slow and tedious recovery.

Remarks.—In this case version could have been readily accomplished, when I saw the patient. I feel satisfied, however, that it would have destroyed the life of the mother, and I doubt whether the child would have been saved by the operation. The exhaustion which would have attended gradual dilatation by the water bags or tampon would have been highly prejudicial, and I am impressed with the conviction that the plan which was followed was the best which could have been chosen.

CASE 6. Dr. Metcalfe requested me to see, with him, Mrs. D. R——, of whom he gave me the following history: She was a multipara, in good health and in the eighth month of pregnancy. Without assignable cause she was affected by recurring hæmorrhages of considerable violence, for which he had been forced to use the tampon. Upon my seeing her, we agreed to employ the colpeurynter, Barnes' dilators not being then in use, and it was faithfully tried. For a time it would control the flow, but it excited violent efforts of the abdominal muscles without bringing on labor.

In four or five days the patient became so much exhausted that we were apprehensive as to the result. The os was half dilated, fœtal heart inaudible and hæmorrhage recurring at intervals. The patient was anæthetized with ether, and Dr. Metcalfe passed his hand slowly into the cervix and removed the entire placenta.

After this, all flow ceased; the child was delivered in twenty-four hours, and the patient recovered without a bad symptom.

CASE 7. I was called on by Dr. Charles F. Heywood to see Mrs. C—, a multipara, who during the first stage of labor was taken with a most alarming hæmorrhage. Upon examination I found the os three quarters dilated and quite dilatable, fœtal heart audible, and woman not much prostrated but beginning to show the effects of the rapid flow. With the sanction of Dr. Heywood I at once proceeded to turn, an easy operation, as everything was favorable and delivered a living child. Both patients did well.

CASE 8. I was sent for by Dr. R. to see, in consultation with him, Mrs. B—, multipara, 37 years of age, who was in labor with her fourth child. Her husband, who came to seek me, told me as we went to his house that he had been in search of me two hours and a half, and that

upon his starting out his wife was bleeding profusely. He likewise stated, that with her previous labors she had lost a great deal of blood, so that in the last her life had been considered in great danger.

Upon arriving at the bedside, I found the patient excessively pallid, her surface cool and covered with perspiration, and the pulse weak but not very much accelerated. She complained of dizziness, upon lifting the head from the mattress and expressed herself as much exhausted. The uterus was not contracting with any force. Upon making a vaginal exploration, I found the vagina distended by a large clot, upon the removal of which there was a free flow of blood. The os was fully, or nearly fully, dilated, bag of water ruptured and a large piece of placenta could be felt in the cervical canal.

Version could have been performed very easily, and as immediate relief was absolutely demanded, it, of course, suggested itself as the most promising resource. But so completely exhausted was the patient, that I felt very sure that the operation would destroy her life. For the child we had no hope, in view of the great loss which had occurred. Rather than risk the draught upon her vital forces, which was necessary for such a procedure, I proposed the entire removal of the placenta, which would control the flow and give time for stimulation and nourishment before the delivery of the child. This being agreed to, I introduced my left hand into the vagina and, carrying the thumb and two fingers into the uterus, easily detached and removed the placenta. The hæmorrhage ceased at once, with the exception of a slight oozing, and in four hours the uterus expelled the child. At this time the patient was taken with a profuse flow, which, her physician informs me, he found it impossible to control by any means, and in an hour and a quarter she died.

Remarks.—I have reflected a great deal over this unfortunate case, the result of which filled me with disappointment, as I was most sanguine for the mother's recovery, upon my leaving her after the operation. I feel that were I called to a similar case now I should reason and act as I did then. Of version, under the existing circumstances, I have already fully expressed my opinion; all means calculated to act as mechanical hæmostatics and too exhausting in their application, and the head was would have been too tardy and incomplete in their effects

too high to be easily or surely reached by the forceps. The only other procedure which suggested itself to my mind was perforation and very cautious extraction of the child, and this would have exposed the patient so much to exhaustion that I preferred the operation to which I so vainly resorted.

ART. II.—IMPORTANT REVELATIONS ON THE SUBJECTS OF INFLAMMATION AND SUPPURATION. By M. COHNHEIM, M.D. Extracted from the London Lancet and Medical Times and Gazette.

An elaborate article on inflammation and suppuration was published towards the close of last year in Virchow's "Archives," by M. Cohnheim, which presents several points of great interest, both to the physiologist and the pathologist. M. Cohnheim commences his essay by referring to the observations of previous inquirers, and especially to those of His and Strube, upon the nature of the inflammatory process, and the production of pus in the cornea, a tissue that, from its transparency, is well adapted to permit the various changes occurring to be followed out. According to the observers, in keratitis the connective-tissue corpuscles of the cornea increase in size, and, either by fission or endogenous multiplication, form new cells, by which the opacity is produced, and which are, in fact, pus-cells. On repeating and modifying their experiments, Cohnheim soon found himself compelled to dissent from their conclusions, as microscopical investigation of the inflamed cornea showed him that, though numerous pus-corpuscles were present, the proper connective-tissue corpuscles of the cornea might also be discerned for the most part in an unaltered state. On discovering this, he immediately applied himself to ascertain the source of the pus-corpuscles. Two modes of origin seemed to be possible. They might result from the multiplication of certain peculiar corpuscles resembling lymph-corpuscles, which present amœboid movements, and which have been described by Recklinghausen as commonly present in the corneal tissue; or they might have a foreign origin, and only be deposited or find their way into the corneal tissue—a possibility which is borne out by other experiments of Recklinghausen, in which a portion of a cornea inserted into the

lymph sac of a frog was found to be infiltrated with lymph-like corpuscles. As a reagent, he employed, and strongly recommends, an aqueous solution of chloride of gold (half per cent.) with a few drops of acetic acid, which colors the nerves and cellular particles red, blue, or violet, whilst it is without action on the intercellular substance.

M. Cohnheim's first experiments were performed on the corneæ of frogs. Inflammation was excited by touching them in the centre with a point of nitrate of silver, the contact being maintained sufficiently long to destroy the epithelium completely and to affect the corneal tissue. The point touched, at first white, soon becomes brown, and after the lapse of from twenty to twenty-four hours, is surrounded by a hazy ring, separated from the central eschar by perfectly transparent corneal tissue. Soon a few diverging grayish striæ extend towards the upper border of the cornea, which after two or three days, form a triangular patch with the apex at the eschar, and a little later a similar patch appears below. In the course of five or six days, these nebulous patches clear up from their base at the periphery of the cornea, and there only remains a whitish ring around the eschar. On following these changes with the microscope the central eschar is found to present intercellular substance, stained brown with the caustic, with white stellar and anastomosing figures of fine vasa serosa. It never contains pus-corpuscles. In the halo round the eschar the matrix is granular and yellowish; the proper corneal connective-tissue corpuscles are also granular and present few prolongations; and there are, lastly, a few pus-cells. In the gray striæ, pus-cells also appear between the connective-tissue corpuscles and always most numerous near the periphery of the cornea. In a little while, the pus-cells seem to clear away from the periphery and to accumulate around the eschar, obscuring alike the matrix and the connective-tissue corpuscles; whilst coincidently with their disappearance, the connective-tissue corpuscles once more appear in a nearly unaltered state, giving the impression to the observer, that these have only been overwhelmed or overrun and concealed temporarily by a swarm of wandering particles. On repeating these experiments on the rabbit, similar results were obtained. These results, in his opinion, favored the notion of the pus-corpuscles taking origin external to the cornea itself. To test this view, he bethought himself

of a plan already employed by Recklinghausen, and injected anilin-blue into the lymphatic sacs and into the aortæ of frogs; and, in all cases, some of the white corpuscles of the blood and some of the pus-corpuscles were found to contain particles of the coloring matter, while these were scarcely ever found in the connective-tissue corpuscles of the cornea. Hence it seemed probable that some, at least, of the pus-corpuscles had been previously white corpuscles of the blood, which had made their way into the corneal substance. Similar experiments on rabbits failed, apparently because the colored corpuscles were stopped at the liver, in consequence of the retardation of the blood-current through that organ. His next experiments were made on vascular parts, and he chose the mesentery of frogs poisoned with woorara. Sufficient inflammation was excited by merely exposing the membrane to the air, which produced, first, hyperæmia, and, after the lapse of twenty-four hours, the exudation of a thin, dull-gray, gummy layer or fibrinous pseudo-membrane. On following these changes under the microscope, the arteries are seen to be at first about one-fourth smaller than the veins. In a few minutes they begin to dilate (attaining their maximum in from one to two hours) and to become tortuous. Then the veins dilate and the circulation is altogether retarded. In the inflamed condition, under the very eyes of the observer, numerous colorless blood-corpuscles accumulate in the plasma or marginal transparent layer of the veins, where they either remain stationary or slowly oscillate. In a little while, small colorless projections, about half the size of a white corpuscle, are seen on the outer wall of the veins. These, subsequently, become pyriform and ultimately detach themselves from the vessels, appearing as colorless contractile amœboid corpuscles, with one or several nuclei, the whole process being accomplished in from one to two hours. Similar phenomena appear in the capillaries, so that at various points the vessels are surrounded by masses of white corpuscles, that appear to have exuded from the plasmatic layer of the blood-current through the solid walls of the vessels and to have become free in the adjoining tissues. Careful observation of vessels injected with nitrate of silver has induced Cohnheim to admit the existence of small openings or stomata between the epithelial cells forming the tunica interna. When they have once passed through these openings, the

migration of the white corpuscles becomes easily intelligible, as all the remaining coats contain much connective tissue, through the lacunæ of which their progression is easy. A few red corpuscles sometimes escape from the capillaries; but this only occurs when the pressure of the blood is much increased. The exit or, as he terms it, the emigration of the white corpuscles occurs when there is only retardation of the blood-current. Analogous experiments, undertaken on the mesentery of etherized rabbits and cats, led to results which, upon the whole, were similar.

From this account, therefore, it would appear that pus-cells proceed, for the most part, if not altogether, from the white corpuscles of the blood, which, by a process of emigration through minute lacunæ in the vascular walls, leave the vessels and accumulate around them and in the spaces of the neighboring tissues. No evidence has as yet been obtained that the white corpuscles, which have thus escaped from the blood-current, can, by fission or endogenous multiplication, generate new ones; yet it seems by no means unlikely that this may occur. Some objection may be raised to this view, on the score of the immense number of pus-cells developed in various forms of inflammation; but this may be answered by admitting that the average number of pus-cells in the blood is much under estimated. And Cohnheim further observes, that no evidence exists of the formation of pus-cells where there are no vessels; and, finally, that genuine suppuration never takes place in cartilage, which is the only kind of connective tissue that is destitute of spaces or lacunæ, through which corpuscles can make their way.

EXPERIMENT 1. To observe the passage of the white corpuscles through the capillaries and the formation of pus. A glass plate is taken, sufficiently large to support the frog upon it, and to this is attached a very thin disc of cork, with a hole in the centre large enough to present a fair field under the microscope. The abdomen of the frog is to be opened and the mesentery carefully drawn out. This is then to be attached to the disc of cork and moistened from time to time by the application of a little artificial serum, which may be made of albumen 1 part, common salt 1-10 part and water 10 parts.

The following phenomena may then be observed: The arteries are first seen to contract, then gradually dilate

until, in about an hour and a half, they attain their maximum. The current at first becomes more rapid, then gradually retarded, and, in about two hours from the commencement, a movement of oscillation takes place preparatory to the occurrence of complete stasis. It is during this stage that the corpuscles, especially the white ones, may be seen to escape from the vessels, principally from the small veins, but also, we believe, from the capillaries. In this experiment the stasis is the result of inflammation produced by the exposure of the serous membrane to the air, and the white corpuscles will be seen to pass out in far greater number than the red ones.

EXPERIMENT 2. To observe the passage of the red corpuscles through the walls of the vessels, during venous and capillary congestion. The web of a frog's foot having been conveniently arranged for examining the circulation in the ordinary manner, a portion of skin is to be removed from the inner part of the groin, so as to expose the femoral vein, around which a ligature is to be passed and tied. It is desirable to include a small quantity of the muscle surrounding the vein in the ligature, partly because the walls of the vessel are very delicate and may be ruptured, and partly because it is necessary at a later stage to loosen the ligature again, and this is a matter of some difficulty, when the ligature is tightly applied to the vein alone. A small bull-dog forceps or a seeresfine may be substituted for the ligature with advantage.

The immediate effect of the application of the ligature is to retard the stream and to cause dilatation of the veins; the current gradually becomes slower and slower until the usual oscillating movements commence, preparatory to the occurrance of stasis. The blood corpuscles are seen to be collected together in masses, whilst a few solitary individuals lie attached to the parieties of the vessels; the wall now becomes pouched and sometimes the corpuscles may be seen to pass out, even during the occurrence of stasis in the vessel. When, however, the vein is released from the ligature, the process takes place rapidly, and red corpuscles may be seen in every stage of transit through the walls; some, adherent by slender process to the inner wall, vibrate backwards and forwards in consequence of repeated blows received from successive corpuscles passing along in the stream; others are firmly impacted in the walls; and others again are only slightly adherent to the outer wall or are found in the surround-

ing tissues. The web must be occasionally moistened and not allowed to become inflamed, if it can possibly be avoided.

NOTE.—These highly interesting researches are, deservedly, attracting much attention.—[ED.

ART. III.—CHEMICAL EXAMINATION IN A CASE OF FATAL POISONING BY STRAMONIUM. By J. W. MALLET, Ph. D., M.D., Professor of Chemistry, University of Louisiana.

In the early part of March of the present year, a box was received at the chemical laboratory of the Medical Department, University of Louisiana, sent from Mississippi, by Dr. R. J. Durr, of that State, and containing a sealed bottle, in which were the stomach and its contents of a young man, supposed to have died from the effects of poison.

The accompanying letter requested a chemical examination, stating that no distinct clue to the nature of the poison used (if there had been any) could be given; that the young man in question had assisted in getting up a party, arrived late at the house at which the party was given, and was served with supper—which was saved for him—apart from the other guests; that he felt no sickness until about an hour after supper, when, as he was dancing, he felt sick, went out upon the gallery, vomitted, and complained of headache—*it is said* that the pupils of his eyes were dilated, this fact not ascertained by the physician himself—that shortly afterwards the patient fell into a stupor, went to sleep, and was not noticed till after midnight, when, being aroused to go home, he was almost unconscious, with a slow, full and labored pulse. He died the next morning about nine o'clock. No mental excitement had been noticed, the patient passing into a semi-comatose condition as soon as affected by the poison, and ceasing to be rational after three or four hours. He was described as having been "limber," and in a cold, clammy perspiration. There had been no purging, but vomiting continued for some time. There had been no complete post-mortem examination; the stomach and part of the duodenum had simply been removed and put aside for examination.

The stomach was opened and found to contain nothing

but a small quantity of tolerably liquid reddish-brown matter resembling coffee grounds. There was no clearly marked morbid appearance about the inner surface of the organ itself.

The stomach, cut into fragments, and the contents were separately examined by the method proposed by Stäs, namely, treatment with water and alcohol successively, with the addition of a few drops of sulphuric acid, evaporation at a very gentle heat over a water bath, digestion of the dried residues with water, and, after filtration and the addition of caustic potash enough to produce alkaline reaction, agitation of the aqueous solution with ether. In one experiment ether alone was used as the final solvent, in another a mixture of ether and chloroform.

A residue was left from the spontaneous evaporation of the ethereal solution, in clearly recognizable quantity (probably $\frac{1}{3}$ or $\frac{1}{2}$ grain) from the contents of the stomach —in traces only from the stomach itself. This residue crystalized readily upon a glass slide, and under the microscope presented the appearance of minute prisms, aggregated together in pennate and stellate groups. It could easily be redissolved and recrystallized. A minute particle placed upon the tongue gave rise to a well-marked bitter taste. Dissolved in water, it produced a distinct alkaline reaction with reddened litmus paper. Its aqueous solution gave precipitates with tannic acid and mercuro-iodide of potassium. Nitric acid produced no marked coloration; sulphuric acid a red coloration, verging rather upon orange than rose-color, but the quantity used was not sufficient for any distinct observation.

Dr. Pope, in charge of the eye and ear clinic of the University, was kind enough to make a careful experiment as to the effect of this substance upon the eye. After noticing that the pupils of the writer's eyes were of equal size when similarly exposed to light, a very minute portion of the residue from the evaporation of the solution in ether was introduced beneath the lid of one eye, and the result was awaited in a partially darkened room. In about half an hour distinct and strongly marked dilatation of the pupil was produced; a fact verified by Drs. Stone, Pope, Hawthorn and others. The power of accommodation of the eye to varying distances was interfered with, but to a small extent only. In three

or four hours all effect upon the eye had passed away.

As the result of the above experiments, it was considered as proved beyond doubt that the stomach examined did really contain a poisonous alkaloid of the atropine group. It appeared most probable that this alkaloid was either atropine itself or daturine, and the latter seemed to be pointed to more particularly by—

1st. The readiness with which the substance found could be crystallized, atropine being notoriously of difficult crystallization.

2d. The short duration of the effect upon the pupil of the eye, though this was so strongly marked while it lasted. It is stated in Bouchardat's Annuaire de Therapeutique for 1864, p. 24, as the main result of a comparison of the physiological effects of daturine and atropine (believed by most authorities to be chemically the same) that the general action of the former poison is more intense and less persistent than that of the latter, and as regards the eye, that daturine dilates the pupil more rapidly than atropine, but the dilation does not last so long.

3d. The fact that datura stramonium or "Jamestown Weed" is well known to negroes as a poison, is everywhere accessible to them, and is used by them for criminal purposes—while belladonna in any form is much less known and procurable.

Suspicion had been directed to negroes in this case.

A report, stating these results in form for legal use, was forwarded to Mississippi.

Since then a letter has been received from Dr. Durr, confirmatory of the conclusion arrived at. He states that a negro man and woman had been arrested on suspicion of their having been guilty of the act of poisoning, and that they had confessed to having used stramonium.

Memoranda with reference to preparation of Perchloric Acid and Perchlorates for medicinal use.

The very large proportion of oxygen contained in perchloric acid, and the remarkable stability presented by this substance and the salts which it forms, suggested the idea of examining the therapeutic effects which might be obtained by means of them. This idea occurred without a knowledge of anything having previously been attempted in the same direction, although it must be confessed that no special search was made in medical literature with reference to the point.

The substances prepared were, the acid itself, and its compounds with potash, sesqui-oxide of iron, bismuth and quinine.

Perchlorate of potash was first formed, by heating successive portions of chlorate of potash in a large porcelain crucible over a gas lamp, raising the temperature gradually until the melted salt began to give off oxygen freely, then maintaining steadily the same degree of heat, as long as the effervescence continued. The residual mass was crushed, washed moderately with cold water, dissolved in boiling water, crystallized by tolerably rapid cooling, and purified by two or three rapid crystallizations. As thus obtained, the salt was supplied to Dr. S. M. Bemiss for trial in the wards of the Charity Hospital, any possible danger from its use having been guarded against, by preliminary experiments with large doses administered to the lower animals.

For the purpose of preparing perchloric acid in the free state the perchlorate of potash was carefully distilled, in small quantities at a time, with sulphuric acid diluted with a little water. A portion of the perchloric acid underwent decomposition, but the greater part was collected in a tolerably concentrated form. Its exact strength was not determined, but that which was prepared for trial in the hospital was diluted until it could be borne in small quantity in the mouth, but had a very strong sour taste.

For perchlorate of iron, the sesqui-chloride of the metal was precipitated by a slight excess of ammonia, the hydrated sesqui-oxide of iron was washed twice or thrice by decantation, and was then added to somewhat diluted aqueous perchloric acid as long as it was dissolved. The solution was filtered and preserved for use.

The perchlorates of bismuth and quinine were prepared in a similar way, using the precipitated hydrated oxide of bismuth and freshly precipitated quinine respectively.

It was intended to use these solutions merely for the purpose of ascertaining whether *any* distinct therapeutic effect could be obtained from them, and, if so, its general nature. It was proposed, in case these first experiments furnished any encouragement to proceed, to prepare several other compounds of perchloric acid, to try different forms and vehicles of administration, and especially to note the precise quantitative composition of

the different salts and the strength of the solution used, so that there should be some precision in the doses employed. The writer was obliged to leave these experiments incomplete on leaving New Orleans at the close of the session.

The following statements bearing on this matter have since been noted as already on record:

Bödecker, in 1849, prepared the perchlorates and periodates of several of the alkaloids, including the perchlorates of quinine and cinchonine. Their chemical characters were described by him, and their crystalline forms by Dauber, but no allusion was made to their physiological action.—*Ann d. Chem. u. Pharm.*, 71–59.

Recently, the *chlorate* of quinine has been prepared, at the request of Dr. Lyons, for some experiments performed at the Whitworth Hospital, Dublin, in connexion with two or three cases of "black death." It is said to have been since employed by that gentleman with great success as a new febrifuge, reference being made to Dr. Lyons' clinic (Medical Press and Circular, vol. 1, p. 653.) Mr. Chas. R. C. Tichborne described, in a paper read before the British Pharmaceutical Conference, the method of preparation and chemical properties of this salt and stated the results of its analysis. He remarks, that "for the internal administration of this salt, it is soluble enough in water (probably the most efficacious method of exhibiting it.) It is incompatible with the mineral acids, as they form the ordinary salts of quinine; it is for this reason that Dr. Lyons has hitherto prescribed it in conjunctinn with *perchloric acid, itself* a valuable oxidizer. *Chemical News*, *No.* 35, (*Sept.* 7, 1866,) *p.* 111.

ADDENDUM.—The medicines whose mode of preparation Prof. Mallet has described, were not used in a sufficient number of cases to justify any conclusions, based upon actual observation, in respect to their therapeutic value.

Perchlorate of potash was given in from five to ten grain doses, dissolved in water, thrice daily. It was prescribed for sub-acute rheumatism and for one case of anæmia, with enlarged spleen.

Perchloric acid was given in fifteen grain doses, in sweetened water or infusion of a vegetable bitter, three times daily, for about one week, to the patient with lardaceous liver and to a patient with anorexia and malarial cachexia for about the same time. Pepsine

could not be procured and the medicine was used to meet the deficiency.

Perchlorate of iron was given in doses of ℥ss to ℥i, thrice daily, to two cases of anæmia from malarial influence.

Perchlorate of bismuth was given in dozes of ten to fifteen drops, in diarrhœa and dyspepsia.

Perchlorate of quinine was given in ℥i doses, thrice daily, to several cases of inveterate chill and fever.

The most marked good results were obtained from the perchlorate of bismuth, perchlorate of quinine and perchlorate of iron, respectively mentioned in the order of their apparent value. In the publication of 1869 it is hoped that the joint experience of our Faculty may authorize the announcement of more definite conclusions in regard to the value of these preparations.

S. M. Bemiss, M. D.

[*New Orleans Journal of Medicine.*

Art. IV.—Treatment of Syphilis.

In the Memoires et Bulletins de la Société Medico-Chirurgicale des Hôpitaux et Hospices de Bordeaux (tome 11, 1869,(is a very interesting paper by M. Moussous, upon the past and present treatment of syphilis. The principal points in the paper are thus summed up:

1. The idea of treating syphilis without mercury is not new.

2. In the rational treatment of the fifteenth century, by consecrated pieces of wood, and the Portuguese method, mercury counts for nothing.

3. Blenorrhagia—simple chancre, with its local complications—syphilis, with its general poisoning of the system—are three distinct maladies and are not to be treated in the same way.

4. The cauterization of the infecting chancre as a preventive of constitutional syphilis, is of no utility, the syphilis being established, when the chancre has appeared.

5. Mercurial treatment, however well conducted, and though instituted at the budding forth of the chancre, is incapable of preventing the general manifestations, but only defers the period of their usual occurrence.

6. If the mercurial treatment be reserved for the time

when the general symptoms appear, it then has, perhaps, more influence upon them, to the extent of making them disappear more rapidly.

7. Mercurials are specially suited to the secondary symptoms.

8. The further syphilis advances towards its latter forms, the more mercury loses of its influence upon it.

9. In the tertiary period, the hydriodate of potassa is the drug on which the most reliance is to be placed; it is of service also in the period of the prodroms which precede the general symptoms; it is, therefore, the medicine for the commencement and for the end.

10. Syphilis may appear without any interference—*sponte sua.*

11. An eclectic treatment. in which one part is assigned to the reäctions of the organism, another to mercury and the hydriodate of potassa, to which may be added iron, quinine and certain warm mineral waters, would assuredly be the best suited to bring about the cure of syphilis.—*Boston Med. and Surg. Journal.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—CLINICAL LECTURE ON SIMPLE FRACTURE OF THE FEMUR. By JOHN ERIC. ERICHSEN, F. R. C. S., as published in two numbers of the London Lancet (original copy). Analysis by PROF. JAMES M. HOLLOWAY, M.D., Associate Editor.

Fracture of femur common. Not so important, because of severity, as from length of confinement and danger of shortening. Dissection of a few cases, shortly after death from other causes, shows: (*a*) upper fragment always tilted *upwards* (recumbent posture,) forwards (erect posture), and either *inverted* or *everted.* (*b*) Lower fragment always drawn *upwards* (in direction of long axis of limb) and rotated outwards. *Muscles concerned in displacement. Upper fragment* — psoas-iliac, adductors; these, when cut across, caused *depression*: Obturator internus and gemelli; these, when cut across, corrected

inversion. In another case, *eversion* was corrected by severing external rotators, especially the obturator externus. *Lower fragment;* flexors of leg, adductor magnus and part of ad. longus, vastus externus and internus, when cut across, in the order named, gradually corrected *shortening* and *rotation outwards.* In these cases, the muscles causing displacement of fragments continued to manifest *rigidity* after death. "*The muscles that were uncontracted at the time of death were not contracted after the rigor mortis had passed. The others continued contracted, as they had been during life.*"

[By this paragraph the author evidently means that muscles causing displacement of the fragments of a broken bone, if not protected by proper treatment, have their characteristic function permanently destroyed, ceasing, physiologically, to be muscles.—J. M. H.]

Treatment.—By three methods, combined or uncombined: (*a*) Liston's long splint; (*b*) starch bandage; (*c*) extension by weights. All three methods act upon the same principle, viz.: gradual exhaustion of muscular contraction and consequent replacement of fragments in normal position. In very muscular adults, Liston's splint should be applied for a week or ten days, the counter-extending band being tightened every other day. After that, substitute starch bandage and allow patient to go about on crutches. Some degree of care is required in the proper application of the starch bandage. Envelop limb with cotton batting, then apply pasteboard splints, wetted and starched, on different aspects of limb and mould them thereto by successive layers of roller bandage, thickly starched.

Precaution.—Fix immovably the knee and hip joints with the splints and avoid *bulky dressings* below the knee; let them be just sufficient to prevent swelling of limb and retain splints *in situ;* otherwise their weight, acting upon so long a lever, might alter direction of long axis of limb. The starch bandage causes fatigue and relaxation of muscles by circular pressure and the cotton batting increases friction between skin and dressings, thereby preventing motion. The extension by weights, as described by Dr. Buck, of New York, is applicable: (*a*) To cases which cannot endure confinement required for Liston's splint; (*b*) where starch bandage is difficult to apply and insufficient to overcome muscular contraction in short, thick-set adults; and, (*c*) when chronic

ulcers or recent wounds coëxist with the fracture. In such cases, extension should be made by weights from eight to fifteen pounds, attached by a cord to adhesive straps, which are applied along inner and outer aspects of leg and joined below plantar surface of foot; the cord plays upon roller fixed on top of upright at foot of bed; counter-extension is maintained by elastic perineal band, covered with domestic or flannel, attached to head of bed.

An objection to the employment of Liston's splint, urged by some, is the tendency to obliterate the natural curve of femur by making extension in the direction of the long axis of the straight splint and not of the bone involved. This, however, is a theoretical, rather than a practical objection. Any tendency to the result alleged, while the limb is supported by the splint, is compensated for by the subsequent *moulding* and *moulting* of the newly formed, yielding callus. This callus is sufficiently firm at the end of eight weeks to preserve the integrity of the bone; but does not prevent the action of the muscles in restoring its normal shape. It is always important to prevent shortening, and the three methods recommended will, in most cases of simple fracture, attain the desired object. But, even when there is unavoidable shortening, in very oblique fractures of a half inch or more, the subsequent accommodation of the pelvis to such a condition will prevent limping. For children, the starch bandage is alone sufficient, because of feebleness of muscular contraction. They should be allowed to go about on crutches after the third or fourth day, or as soon as the bandage is perfectly dry. Preference is given to starch over plaster of paris, glue, egg and flour paste, silicate of potassa, dextrine and "other things."

NOTE.—In such cases I have fonnd it a good plan to reduce the fracture as nearly as possible by forcible extension (with or without chloroform) and apply, without delay, the starch bandage. Until the dressing becomes perfectly dry, use Dr. Buck's method to prevent contraction. Afterward, the latter may be removed and the adult patient should be directed to move about carefully upon crutches every day, in order that the evils of close confinement may be avoided. The weight of the lower fragment, the patient being erect, affords sufficient extension to gradually overcome the remaining muscular

contraction. When the starch bandage loosens, from subsidence of swelling and relaxation of muscles, it should be split open in the direction of long axis of limb, and the edges being pared or lapped, a stout roller should be applied to fix it. Fenestra can be made over the ulcers or wounds, so that they may be examined at will. My experience, however, induces the belief that these ulcers or wounds heal more rapidly when covered by a starch bandage, than otherwise; not *solely*, because of the exclusion of atmospheric air, but rather, because of the absolute rest and protection against sources of irritation thereby obtained. J. M. H.

ART. II.—CLINICAL LECTURE ON STONE IN THE BLADDER. By SIR HENRY THOMPSON, at University College Hospital. Lecture VII, from the London Lancet (original copy). Analysis by PROF. JAMES M. HOLLOWAY, Associate Editor.

Remarks confined exclusively to stone in the bladder in adult males.

Stone relatively most common after the fiftieth year. Estimate made by comparing the number of each class living at any given time.

History.—Uric acid stone begins always in kidney; urine acid; cayenne pepper-like crystals; patient has suffered from sharp pain in back, groin, hip, testicle, denoting formation of gravel in pelvis of kidney and descent into bladder. Such a stone usually escapes from bladder without surgical interference. Individuals thus affected should be warned of future danger and directed to regulate their diet, habits and resort to prophylactic medication. Uric acid stone, more common than oxalic and *less* common than *phosphatic.*

Phosphatic stone not usually formed in kidney, but in bladder. Either deposited around nucleus, consisting of foreign body, or upon gravel descended from kidney and retained, or from the *phosphate of lime*, in the mucus of diseased bladder, uniting, chemically, with *ammonia* of decomposed urine, forming ammonio-magnesian phosphates, or "fusicible calculus."

Oxalate of lime calculus (comparatively rare) always formed in kidney; urine showing characteristic crystals under microscope.

Symptoms.—Patient may or may not give history, as above indicated, and may or may not exhibit some gravel that has passed. If he has passed gravel, none has been seen for some months; but, nevertheless, he finds increasing difficulty in making water. *Micturition* increased in frequency during day; but no disturbance at night, because of position. *Pain* almost always present; referred to lower part of glans penis, about an inch from external meatus. This pain is most severe *during* and *after* making water; while in enlarged prostrate, pain *ceases* when flow begins. This pain and desire to micturate continues until bladder is again partially refilled with urine.

Condition of Urine.—Almost always contains muco-pus (cloudy); blood is almost always passed at sometime. This is more frequent, as is, also, pain and frequent micturition and cloudiness of urine, during exercise, whether physical labor, horseback or vehicle riding.

Sounding—Should be done with a solid instrument, with a small, short, curved beak, whose point can be easily turned in all directions. Our predecessors, with catheter-shaped sounds, found many stones; but, from clumsiness of instruments, failed to discover many others. Skill in sounding consists in finding small calculi recently formed; none is required to discover a large stone.

Size of stone indicated by note elicited by sounding; also by graduated slide on staff, also by lithotrite.

Nature of stone indicated by note; dull, phosphatic; uric acid harder ring, high note; rendered certain by history given above.

Number of stones in bladder determined by lithotrite; grasping one and searching for others.

Treatment.—Cut or crush? All stones under an inch in diameter may be crushed, whether phosphatic, uric or oxalic.

1st. All stones in males, under puberty, (exceptions very few), require lithotomy or cutting. Exceptions: (*a*) very small calculi, that can be crushed in one operation; (*b*) nervousness of urethra and irritability of bladder in children contra-indicate crushing; rate of mortality in children from lithotomy, one in fifteen or sixteen.

2d. *All cases above puberty* (exceptions very few) *require the lithotrite or crushing.* Exceptions: (*a*) oxalate of lime calculus (rare) above an inch in diameter, (above that size no instrument will crush it; even, if this was possible, injury would result from passage of the resulting sharp

fragments;) (*b*) a large uric acid stone or a *very large* phosphatic stone; the number of sittings required, irritation produced by crushing any stone over *two inches* in diameter, render the cutting operation preferable.

The largest sized stones favorable, under above rules for crushing, are the phosphatic.

Condition of organs making it necessary to cut rather than crush: (*a*) very bad urethral stricture; (*b*) very highly diseased condition of bladder. These two conditions do not often exist.

Hypertrophy of prostate does not prevent crushing, neither does organic stricture, unless canal is very much reduced in caliber; (small instruments can be purposely constructed for such cases;) nor does ordinary chronic inflammation of the bladder. For, in the first two conditions named, the previous use of the catheter renders the introduction of the lithotrite less irritating; and, in the two last named, the crushing of the stone removes the same and, thereby, the bladder becomes less and less irritable after each crushing.

In hypertrophied prostate more delicate manipulation is required.

Inability of the bladder to discharge its contents does not contra-indicate crushing; for the same reason that organic stricture does not, and for the additional reason that instruments have been constructed for the removal of fragments.

An empty bladder or one partially full of urine is favorable to crushing. The bladder, however, should not be very full, because the stone will roll about and not be easily grasped. "It is better to have an empty bladder than a bladder with a half pint of water in it."

If a few generations of surgeons, in the future, progress in knowledge of stone as have the few generations of their predecessors, there will be fewer and fewer exceptions to crushing after puberty; "*because, if the stone is discovered when small,* it can always be crushed with an almost certain chance of success; so lithotomy must some day disappear, except for cases that have been strangely neglected by the patients themselves, or have been overlooked by the medical attendant."

NOTE.—Small calculi, which are, however, too large to admit of being discharged spontaneously through the urethra with the urine, can be expelled without crushing by introduction of a very large bougie. The urine being

allowed to accumulate, the bougie is carefully introduced and then withdrawn slowly and gradually; by forcible micturition, the stone is made to follow it.

ART. III.—THERAPEUTIC MEMORANDA. By JOHN ADDINGTON SYMONDS, M. D., F. R. S. E. From British Medical Journal, being the Journal of the British Medical Association. Analysis by Prof. JAMES M. HOLLOWAY, M. D., Associate Editor.

Asthma.—As a guide to treatment, asthma is divided into: (*a*) the kind in which *spasm* predominates, with or without *emphysema*; (*b*) the kind in which there is *bronchitis* or *bronchorrhœa* with the spasm.

Treatment. Spasm relieved by remedies named in order according to their value; chloroform inhalation, ether, nitrous vapor, belladonna, stramonium, opium. The danger of chloroform arises from its great power; the patient is prone to use it in excess. Belladonna (Battley's liquor B, preferred) combined with bicarbonate of potassa, acts promptly. When bronchitis is present, add antimony or ipecac. When there is less congestion, and a mucus flux relieves, add squill. Because of the physiological and anatomical relation between circulation of blood in lungs and liver, cholagogues and purgatives (mercurials) are indicated. During intervals between paroxysms, long courses of oxide of zinc and quinine, combined with conium. The young and vigorous should take shower baths, and patients of all ages should pay strict attention to diet and to regulation of bowels.

Pleurisy.—Can always be promptly relieved, if discovered early; a few leeches, or hot fomentations, or poultices, with absolute rest in bed, will enable the patient to go about in a day or two. But the majority of cases are not discovered until more or less effusion has taken place. It may begin by a small patch, over base of lungs, simulating neuralgia; or upon diaphragm, simulating, by reflected pain in shoulder, liver trouble. In such cases, during first week, treatment should be, rest in bed, blisters every two or three days, on anterior, posterior and lateral regions; alkaline carbonates, combined with spirits nitrous ether and antimony; a nightly anodyne, combined with mercurial; slight ptyalism not to be feared, though not regarded as necessary to a cure.

Second week: continue alkaline carbonates, with potassii iodidi, digitalis and squill. Hydragogues, when they can be borne, hasten the cure. When this treatment fails, thoracentesis is indicated—more favorable in young subjects. All the fluid should not be removed at once; patient should lie on affected side, the artificial orifice resting upon a large poultice.

There is a certain form of acute pleurisy, occurring mostly in persons passing from middle to riper years, which attacks the diaphragmatic portion of the pleural sac of left side, that does not yield to any plan of treatment. The patient is suddenly overwhelmed with dyspnœa, piercing pain in left side, "pinning him to the bed." The cardiac (vital) power runs rapidly down. Post mortem does not show cardiac complication; "but the vicinity of the heart makes one think that there must have been some morbid impression on its nerves, illustrating what used to be called the sympathy of contiguity."

NOTE.—Bowditch's exhausting syringe is not mentioned by the writer. With it, the effusion in pleural sac can be completely removed, allowing the lung, if not confined by old adhesions, to expand and refill the normal space. This seems to be the only real benefit to be derived from the employment of such an apparatus; not, as is claimed for it, that the atmospheric air is, also, excluded. The appearance of pus after thoracentecis does not depend upon the introduction of atmospheric air; the large number of cases of empyema on record requiring the employment of the trocar prove this. The introduction of air into the pleural sac can only hasten the decomposition of the already effused fluids; it exerts no influence upon vitalized tissues, even when there is low vitality. Neither can the introduction of atmospheric air prevent the expansion of the lung. It collapses the lungs in the cadaver, but not before death. The object, then, in treatment by thoracentesis is solely to get rid of all of the fluid (whatever be its character) in the cavity, and to establish such a perfect system of drainage as to prevent reäccumulation.

Pneumonia.—Experience in treatment accords with that of Allison, Christian, Stokes, Williams and Law; to the effect that a great difference has been required in the treatment of pneumonias of the last few years. That the type of the disease differs—now sthenic, now asthenic. At the present time, full and frequently repeated doses of

bicarbonate of potassa, with spirit of nitric ether, antimonials or ipecac, with poultices and blisters, are the remedies to begin with. "Beef tea, champagne and soda water, in equal proportion, and milk and soda water are prominent in the dietetics." Weakness and frequency of pulse and nervous debility call for brandy and ammonia. In such cases the pulse becomes less frequent, fuller and more steady under stimulation. Expectoration, when free, should not be checked by an untimely opiate. [The author evidently means that opium, in full doses, is contra-indicated when the air tubes and vesicles are clogged with mucus from the coëxisting bronchitis.]

Phthisis.—In the first stage, treatment consists in gentle exercise, active and passive, riding, sailing, in pure air, and nutritious, digestible food and moderate stimulation. If other members of the family have succumbed, urge a voyage or change of climate. Since 1846, the profession, generally, have relied mainly upon cod liver oil as a therapeutic agent, capable of staying the progress of the disease in many cases, and, in some, affecting a cure. This remedy was introduced in 1841 by Bennett, and Dr. C. B. Williams came to his assistance, when it was needed to overcome the scepticism of the majority.

"Three principal facts are adverse to a cure: strong family predisposition; an extensive amount of deposit in the lungs, and the complication of ulcerative laryngitis."

Details of Treatment.—Cod liver oil, when it can be tolerated by the stomach. Don't despair of a patient's taking it, until it has been disguised in highly flavored emulsions, or with a strong acid or a bitter. If the pure oil will not be digested, congeal and filter it, so as to retain the oleine and get rid of the stearine. If necessary, give pancreatine along with the oil so as to increase the rapidity of its absorption.

In connection with the oil, use small blisters, applied beneath clavicle, frequently repeated; a morning dose of quinine, with iron added; a sedative for cough at night; nutritious diet, always including milk and eggs.

When the above treatment seems to stay the progress of the disease, the patient not losing flesh and strength, but still annoyed by excessive expectoration, and no improvement in lungs shown by physical exploration, decided benefit will follow the addition of ten to fifteen grains of chlorate of potassa, in plain or barley water, three times daily. An abatement of the ulceration follows.

When the oil is not tolerated, resort may be had to the use of sugar and eggs as a substitute. Feed the patient on all sorts of nick-nacks, besides increasing the allowance of sugar in tea and coffee and dessert.

Tubercular Hæmoptysis.—In the early stages, when dependent upon congestion, the bleeding is not usually profuse and needs no treatment farther than rest, relief from fear and anxiety, cooling drinks and a *placebo* ("a remedy of infinite value in this and all other diseases attended with disproportionate anxiety"). When there is lung disorganization and the loss of blood reaches or exceeds a half-pint, digitalis, gallic acid, turpentine and acetate of lead are indicated. The digitalis, given in doses of 20 minims every three hours for six doses and then at longer intervals, controls the action of the heart. If there is fever, give alkalies and anodynes before resorting to direct astringents. Frequently, the employment of tartar emetic and ipecac, in doses sufficiently large to induce vomiting, have succeeded in suddenly checking the hæmorrhage. Acetate of lead, in five grain doses, with twenty to thirty minims of dilute acid suphuric and ten grains of magnesiæ sulphatis, repeated every two or three hours. In severe cases, the local application of ice, pounded and inclosed in a bladder, acts promptly. Venesection is sometimes indicated upon the grounds that "the flow of blood from a vein lessens the hydrostatic pressure throughout the body;" secondly, "the heart's impulse is modulated;" thirdly, "a faintness ensues and there is contraction of the terminal arteries and a disposition of the blood to coagulate."

"Old remedies, like old friends, are not to be forgotten, though we may no longer lean on their help."

NOTE.—No allusion is made to the employment of the atomizer in the local administration of astringents to the bleeding surface. A trial of it should never be omitted.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M. D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians of the Hospital.

LECTURE VI.—IMPETIGO OF THE FACE—RHEUMATIC SPINAL MENINGITIS—POTT'S DISEASE OF THE VERTEBÆ—POST MORTEM ILLUSTRATIONS OF PNEUMONIA AND CHRONIC DYSENTERY.

GENTLEMEN: The first case to which I propose calling your attention this morning is one of *impetigo of the face*, and I do so because the opportunity of seeing skin diseases in this country is comparatively small. You will meet with them in private practice occasionally and, unless you have seen some examples of them during your student days, you will not be likely to recognize them. I am, therefore, desirous, whenever a well-marked disease of the skin presents itself, of exhibiting it to you in order that you may have a picture of it painted in your minds, better than any you can obtain by artistic representations of the same affection. Impetigo is a pustular eruption, which may occur on any part of the body, but is most apt to appear upon the face and the adjacent parts.

Observe the appearance of this eruption. Here are scabs, raised upon a somewhat inflamed, but not a very inflamed base. These scabs are of a light yellowish color and are somewhat granular and hard. Underneath the beard and along its edge, but not within it, except to

a slight extent, you observe a similar eruption. Behind the beard, on both sides of the neck, you observe other crusts of the same kind—yellowish green and somewhat granular upon a faintly red and slighly raised base.

The disease which I have just shown you is represented in these drawings in different forms. This particular variety of the disease (for we must have names for all these things) is called *impetigo sparsa*, or scattered impetigo, or, from its occurring on the face, *impetigo faciei*. On comparing these drawings with the appearance presented by the patient you will notice a certain degree of resemblance between the two. In this particular drawing you have represented that form of impetigo which comes out over the whole face, forming a continuous crust and covering it as a mask; hence it is called *impetigo larvalis* or mask-like impetigo.

Let me now call your attention to another disease which looks very much like what I have shown you in the drawings and in this man, but which is really very different. This drawing represents a case which you would, at first, say was precisely like the one just exhibited; but, if you will reflect a moment, you will observe that it is not the same; that the color of the eruption is quite different and, also, that it is confined to the beard and does not appear outside of it. In other words, this disease is what is sometimes called "*sycosis;*" it is a disease of the hair follicles of the skin. It is a cryptogamic disease; that is to say, it is produced by a certain kind of vegetable growth in and upon the hair follicles. It is not a change in the normal constituents of the skin, but an actual growth, a super-addition to the natural skin. In this form it is contagious and is known as *sycosis contagiosum*.

The case which you have just seen is one of a superficial disease; when these pustules get well there will be

no mark left upon the skin. For a time, of course, there will be a little redness; after awhile that will disappear, and the skin will be left perfectly smooth. But in this other disease, the termination is quite different; the hair follicles are the seat of the morbid process, and in the progress of the vegetable growth which forms there, these parts ulcerate; there is, consequently, a loss of substance; and whenever a loss of substance occurs there will be a scar, just as certainly as in the other case, a scar is never seen.

In regard to the treatment of impetigo, I may say a word. The eruption arises almost always in connection with debility of the constitution. In the particular case before us, the man came into the hospital from the city. He is a poor, miserable, cachectic person, as you see, and I know that he drank more whisky than he did water. In consequence of such habits, and the insufficient food which he probably obtained, his blood became impoverished and this disease arose. The best thing to be done in such a case is to treat the system; to give iron and food, and, I may add, cod liver oil. In regard to the local treatment, poultices should be applied to soften and remove those scabs before any medicinal application is made to them (for there is no use trying to heal the eruption by any ointment or lotion until the scabs are removed), and then I would dress them with zinc ointment. A very good dressing for all such sores, particularly when occurring in people of impaired constitution, is that made from carbolic acid. Coal oil has, as you know, been popularly used in the treatment of these affections for a good while; and, in the regions of country where the coal oil flows naturally, people who had rheumatism and cutaneous diseases made use of it as a local application to stimulate the skin. Now that we have carbolic acid in a purified state, we find it to be among the best

stimulant applications in diseases which require such a treatment.

Case 2. I have next to present to your notice a case, the nature of which is far from clear. If I were obliged to give it a name I should call it *rheumatic spinal meningitis*. I make this suggestion now, in order that you may have something to steer from, if I may so express myself, while I am reading and discussing the notes of the history.

History.—Absolom Tompkins, æt. 39, native of England, by occupation a copper miner, unmarried, of temperate habits. Until about seven or eight months ago he was always in good health and never had rheumatism up to that time. While working in the mines in Tennessee, without any unusual strain, or any other known cause, he was suddenly seized with pain in the back of the head, extending from the occipital protuberance to the upper part of the neck and in a less degree down the spinal column. No swelling of the joints existed at the time, nor any other external sign of rheumatism. He worked no more on the day of his seizure, but returned to work the following day and labored until 10 o'clock, when he was seized with a pain in the lumbar portion of the spine, described by him as "cutting" and "darting up and down." He thinks that the change from hot to cold may have had something to do with his complaint.

This is very important, as you all know that in deep mines the temperature is uniform the whole year round, and to pass from that to a temperature below zero, or, at any rate below freezing point, which he was obliged to do every day on returning from his work, was, of course, a great and trying exposure.

At the same time that he felt these pains, he experienced a loss of power in the lower limbs. With the pain of the first day, he was affected with giddiness in the head. It does not appear distinctly that any alteration of the senses existed, nor any defect of speech attributable directly to the attack. He thinks that the sensibility of the lower limbs was impaired and that this condition extended as high as the loins. The bowels were rather constipated; there is no clear evidence of retention or incontinence of urine, but there was probably some irri-

tability of the bladder requiring frequent micturition and the urine became high colored at once. He alleges that the difficulty he experienced in walking was due to a pain in the lumbar region, darting through to the umbilicus. The darting pains lasted for two months and were worse at night, but they gradually subsided and have never since returned as badly as at first. He has lost twenty-five pounds in weight since the original attack.

Present Condition.—Appetite and digestion normal; constipation habitual; pulse 104, probably excited by the interrogation, of good volume and force and regular; heart and lungs normal; voice rather thick; patient is not subject to headache; senses perfect; no paralysis of face; no sensitiveness of the scalp, but from the occipital ridge along the spinous processes on either side, as far as the dorsal vertebræ, there is tenderness on pressue. The pain appears to be very much increased when he moves the head forward; it seems to be *in or under* the spinous processes rather than up on their sides. There is a similar tenderness, increasing downwards, upon pressing the spinous processes, as low as the middle of the sacrum. The same pain is felt on percussion and is described by the patient as a "heavy" pain. There is impaired sensibility of the skin from the middle of the lumbar region downwards. In front it commences about an inch above the line of the umbilicus, and the diminution is greater on the left than on the right side. The same difference extends to the lower limbs. He is unable to raise either limb to a horizontal position while sitting, but raises the right higher than the left. There is no loss of muscular power in the upper extremities. He has never had a fit of any kind, nor any difficulty in swallowing food or in drinking.

The treatment, from the first, consisted of cupping and blistering, with internal remedies, the nature of which the patient does not know. He is confident that this treatment, which was continued for a month or six weeks, was followed by no diminution of his pain, until the expiration of four months.

Now, gentlemen, what is this disease? As I have often had occasion to say to you, in such inquiries we must determine what a thing *is* by first ascertaining what it *is not*, or by what is logically called the "method of exclusion;"

we can, in that way, generally arrive at the truth. Here, then, is a man who very *suddenly* was attacked with pain in the spine, and who sometime afterwards lost more or less motility and sensibility in his lower limbs. A *sudden* attack, observe, for it is a point of great importance. What disease can occur under such circumstances? There is one which will at once suggest itself to you, spinal hæmorrhage, a very unusual disease certainly, more particularly when there is no traumatic cause to produce it. Spinal hæmorrhage may occur, however, and when it does, the patient is immediately deprived of the power of motion, sometimes in the lower limbs only, sometimes in all four of the limbs at once. There is, usually, no pain attending the onset of such a case; there is loss of power immediately, and if there is any pain at all, it is always consecutive, whereas, in this case, pain occurred first and loss of power afterwards; we may therefore reject the supposition of spinal hæmorrhage.

What else, then, may the case be? There are several dyscrasiæ, that is to say constitutional diseases, which may give rise to alterations within the spinal canal, producing pain in the spine and paralysis. For instance, there is syphilitic exostosis and syphilitic thickening of the theca of the spinal marrow; there is pressure by tumors arising outside of the spinal marrow, outside of the spine even, and gradually extending into the canal of the spine and exerting pressure on the marrow; but evidently, in the case before us, there is no history of any such thing. The attack was, I repeat it, sudden. Besides, there is no trace in the patient of any constitutional disease whatever. I already have called your attention particularly to the fact that up to the time of the attack this man was entirely well, he had had fever and ague, it is true, and he had had yellow yever, but neither of them would leave such an effect as this, and consequently they

have to be rejected as predisposing or determining causes of the present disease. Thus far, then, we have not discovered a probable cause of its occurrence. Let us inquire further. There are cases of "acute tetanus," sometimes called "idiopathic tetanus," when persons, after lying upon the cold and damp ground after great fatigue and exhaustion by heat and sweating, or having been wet by a passing shower, have been seized with tetanus. The tetanus, in such cases, appears to be a result of a rheumatic inflammation of the spinal membranes, or at least such is the usual explanation given of it. But in our case there was no spasm at all, tetanic or other, while in all those cases which are called "acute tetanus" and "idiopathic tetanus," there is invariably spasm, and not only spasm but pain, pain radiating from the spine, pain radiating from the neck, from the loins, and along the arms, of the intensest sort. Now, there has been no such pain here and no spasms whatever.

What have we left them? It is to be observed that in cases of idiopathic tetanus, an affection produced by cold, and by some persons regarded as rheumatism of the spinal membranes and ligaments, a certain degree of intensity of the cause is necessary to produce the result. In the idiopathic form of meningitis, the epidemic form, that is, a disease of which we had so many cases to present to you last winter; those of you who were present at that time will remember that one of the most frequent of the symptoms was an intense pain in the arms and in the legs, exactly as in tetanus arising from colds. But in some of those cases the pain was entirely wanting and in some there was only a slight stiffness of the limbs, in others a soreness merely, not amounting to pain. I mention these facts to show you that inflammation of the spinal membranes may exist in different degrees and with widely different grades of pain and stiffness. Further, and

making an application of these points to the case before us, I will say that, having excluded all other possible causes, it seems to me we are driven to accept as the only possible cause in operation in this case, that to which the patient himself says he attributes it, to cold, or rather to extreme and sudden vicissitudes of heat and cold. We are forced to conclude that the symptoms arose in some way from the influence of cold, and we can only explain the absence of spasm and pain, by supposing the cold to have been less intense in its action than was necessary to occasion the more violent symptoms of spinal irritation. I have very carefully examined every ground and excluded all other causes, liable to produce the condition we are studying, and I cannot see how any other explanation can be given, than the one I have produced.

I will mention still another ground, viz: that the pains of which this patient complains, were not, and are not now, confined to any particular part of the spine; they at first extended from the head to the hips, and they so extend at the present moment. This is not the history of any constitutional disease affecting the spinal marrow; let it be syphilis, let it be scrofula, let it be cancer, let it be what you will, all are developed at some local point in the spine and there they expend all their force, whereas here you have an affection occupying the entire length of the spinal membranes. Can you conceive of any morbid cause capable of producing this effect, except such a one as cold, or a poison of some sort?

Perhaps you will recall to me the fact, that this man was employed in a copper mine, and may ask, is there no suspicion of copper poisoning? I answer that he manifested no symptoms of copper poisoning; the effects of copper upon the nervous system are always preceded by abdominal symptoms. You know, how it is with lead poisoning, there is obstinate constipation and a certain

kind of paralysis following; in copper poisoning, there is the very opposite of that, colicky pains with diarrhœa, and there are no such symptoms here.

I have carefully examined this patient's spine and I now exhibit him to you, so that you may be satisfied that there is no deviation whatever from the straight line of spinous processés. You will observe that here, just between the shoulders, there is great tenderness. I pass the finger along the spine, pressing, as you see, upon the spinous process. Here is another diagnostic mark to which I must call your attention. You are aware of what is meant by "spinal neuralgia;" it is manifested by extreme tenderness of the cutaneous branches of the spinal nerves, which ramify on either side of the spine, so that there is no tenderness of the spinous processes themselves, but extreme tenderness on either side of them. Here, on the contrary, there is no particular tenderness on the side, a very slight degree, if any; the chief tenderness is manifested when I press directly upon the spinous processes. You see the tenderness even when gentle pressure is made upon the skin which covers them; the patient shrinks when I touch it and that excessive sensibility exists all the way down.

There is still another point which I will ask you to observe. You noticed that when I was pressing over the sacral canal, that is over the sacrum, and consequently below the spinal marrow, evidences of morbid sensibility were manifested. Therefore, it is very evident, from this alone, that even if there is disease of the spinal marrow, there is also disease of something else and something more than it. But why should we conclude that there is disease of spinal marrow and of the membranes also, when the supposition of one only being diseased, is sufficient to account for the symptoms?

The fact that I here bring out is perfectly coincident

with the first supposition as to the nature of the disease. You know what the spinal marrow is surrounded with; you know what constitutes the mass of the spinal column; bone, and ligaments, and cartilage; you know that the ligaments, a fibrous tissue, may be the seat of rheumatism, and I have little doubt, upon these grounds, that we have here to do with, what is to me, a perfectly new case, a *chronic persistent rheumatism of the membranes of the spinal marrow*, and probably also of the ligaments of the spinal column, although of that I am less persuaded, because there is no swelling in any portion of the column.

But you will say, this patient has certain other symptoms which seem to indicate disease of the cord itself. Yes, he has. Those symptoms consist in a certain degree of paralysis of the lower extremities, and it is to be remarked that that paralysis, began nearly at the commencement of the attack, not, however, absolutely at the very commencement, because, on the second day, the patient went into the mine and worked, so that the paralysis could not have been very considerable at that time, nor, indeed, has it been very considerable at any time; and that is a very important point. The patient can even now walk through the wards of this house; it is true his gait is staggering and he requires some support, but he can walk from his bed to the end of the ward, in order to go to the water closet; he walks very carefully, but still he can walk. Now, on examining his legs I found, as you have already learned, that there was a partial loss of sensibility in them from the hips downwards; it was somewhat, but very slightly, greater upon the right side, and the degree of the loss of motion corresponded to that of sensibility. Thls would appear to show that the lesion, whatever it is, is of the membranes and not of the substance of the cord; if it were in the interior, the disease having existed so long, there cer-

tainly would have been a progressive, and by this time, a complete loss of motion. Instead of that, the patient is no worse now than he was months ago; this fact, I think, is totally irreconcilable with the supposition of there being central lesion or softening of the spinal marrow.

There is still one point which was not looked at yesterday, when these notes were taken and it is well for us to examine it now, and that is the reflex action of the lower extremities. You see, when I tickle the feet, that contraction of the muscles is prompt; this shows at once that there is an irritative lesion of the spinal cord. It also, I think, confirms, as far as it goes, the general diagnosis which I have been disposed to make; that is to say, that we have here an inflammation of the membranes of the spinal cord and most probably of a rheumatic nature.

I will add a single consideration in support of the view which has been taken. You know that rheumatic inflammation is very different from phlegmonous inflammation; that the former is not attended with an effusion of lymph; that the knee joint, for example, where active inflammation of a rheumatic sort so frequently occurs, may be enormously swollen, and if the patient dies during such an attack, it is not found altered; there is no pus, no lymph, none of the usual products of inflammation. I think, therefore, we have an explanation of the fact that in the case before us, our patient did not suffer from those symptoms which attend an effusion of lymph and serum within the spinal canal.

A great deal more, gentlemen, might be said upon this case; it is a most instructive and a most interesting one, even because its nature is doubtful.

Now, what shall we do to relieve this man? He has been in his present condition for seven months, but surely it is not too late to do him good. He was, in the commencement, treated by cupping and blistering on the spine

and very appropriately too, but it would appear that that treatment was not continued; it should have been persisted in, not for one or two weeks, but for many months. I, therefore, propose to renew these applications, and as the patient is at present somewhat exhausted and has lost some flesh, I am not anxious to take away blood; at the same time, I will renew the application of blisters over the spine, so that one portion only shall be vesicated at a time; one should be applied first to the neck and, after that blister shall have healed, another will be placed lower down, and thus, alternately, above and below, there will be kept up a constant irritation of the spine. In regard to internal remedies, there are two that I am disposed to give and one of them on account of what we may call its anti-rheumatic powers—I mean iodide of potassium. You all know how powerful this remedy is in certain constitutional diseases where there is exostosis, periostosis and so on. Now, I see no reason why, in the case before us, if our theory of it be correct, this should not do good. At any rate, the patient should have the benefit of its trial; it will improve his general health, even if it does not improve the condition of his spinal marrow. I would give him this remedy in doses of at least five grains repeated three times a day.

But, we must also try to nourish the patient. I would, therefore, give him cod-liver oil, not account of any specific operation it will have upon the spine, (and yet I am not sure of that,) but certainly upon his general system it will have a salutary influence. You all know that cod-liver oil, which we now employ chiefly in the treatment of phthisis, was originally used, not for that disease at all, but was famous for the cure of chronic rheumatism, before it was ever thought of as a remedy for phthisis. Because this patient has lost flesh and is

considerably weakened, he will probably be benefitted by these medicines. I will give him a tablespoonful of cod-liver oil, three times a day, with each dose of iodide of potassium.

Case 3. The next case that I propose to show you, gentlemen, is one which I wish you to contrast with that you have just seen. In that patient you have had an example of an affection of the spinal membranes, evidently extending from one end to the other of that organ, from the brain to the sacrum. I have now to show you the case of a man who has a lesion of the spinal marrow, a paralysis precisely like that you have just seen, so far as its extent is concerned, but arising from a different cause.

History.—Edward Galvin, æt. 25, native of Ireland, unmarried, of temperate habits, by occupation a laborer. His parents are living and in good health. He has never had any severe sickness and has not had hooping cough; was admitted into this hospital last March with fever and ague and discharged to the out-wards at the end of two weeks. He then had a relapse which lasted a week, but the disease did not return. Immediately after this he complained of aching pains in his back and sides. At that time he had some cough but no expectoration, the cough shortly left him and with it the pains in the chest. The pain in the back and sides continued and the lower limbs became numb and feeble. On the night of the 31st of August last, he lost almost entirely the use of his lower limbs; but felt no pain in them. The pain between the shoulders continued and increased, extending to the sides only, and not up and down.

Please to notice here an interesting point. In the case we have just been studying the pains extended, as you observed, longitudinally, not laterally; here, on the other hand, the pain was local, limited and extended laterally along certain intercostal nerves.

The pain in the sides was sometimes sharp and lancinating. Retention of urine occurred and also paralysis of the sphincter ani, which continued for two or three weeks and then entirely disappeared, without any special treat-

ment. On November 1st he noticed an angular projection on the spine over the seventh or eighth dorsal vertebra. Below the nerves given off from the point of curvature, the sensibility is very much impaired and nearly equally so on both sides. Reflex action is very marked in the lower limbs.

Here, then, you have case in which there is a local limited lesion of the spinal marrow and the cause of it is as plain as the limited nature of the lesion, namely, an angular curvature of the spine. I suppose all of you know what angular curvature of the spine implies. Let us study it in the case before us. Here, you observe, is an angular projection of the spinous processes, about the seventh or eighth dorsal vertebra. What is the cause of the projection? Evidently, there is only one possible way in which it can occur and that is by the bodies of vertebræ giving way. So long as the bodies of the vertebræ in front are sound, of course, they keep the line of the spinous processes straight. But if any of these bodies are destroyed, what is the consequence? Why, the spine bends, of course, and then an angular projection backwards takes place. What is the nature of this change? What has caused the destruction of bodies of the vertebræ? Is it tubercle? Tubercle is a name given to various deposits which may occur in the bodies of the vertebræ and elsewhere. But, most assuredly, if it is a tuberculous deposit in this case, it is not that tubercle which exists in the lungs. Is it an alteration of the bones, such as we see in certain constitutional disorders (syphilitic) of a secondary kind? Clearly not. In other words, not to go over the possible conditions that might, or might not, give rise to this state of things, it is sufficient to say that this alteration of the bodies of the vertebræ is a well understood one and consists in softening, probably of an inflammatory nature, originating in a more or less sub-acute form and resulting in a destruc-

tion of the bodies of one or more vertebræ, and in the falling of the sound vertebræ above into contact with the sound vertebræ below.

You know that the vertebræ of the spinal column are inclosed everywhere in a theca or sheath; that is to say, there is a tendinous expansion all around them, so that, when they soften, the liquid that is formed cannot escape. Now, this softened matter, this detritus, must gradually be absorbed; first, the most liquid parts of it and gradually the denser portions, and, as this goes on, a new deposit of bone joins together the upper and the lower bodies and partially fills up the space between the sound vertebræ, made by the destruction of affected ones.

How are you to treat the patient meanwhile? The only possible way to promote the union and solidifications of the separated and eroded bones is to secure their rest and to sustain the patient's strength; nature must complete the cure.

How are you to give rest to this particular part? In a patient of adult age it is almost impossible to do so without keeping him in bed. In adults there is a rigidity about the vertebræ which prevents that free movement which exists among them in children. If, then, we can keep this patient still, and if we can nourish him meanwhile, if we can keep up his general strength, almost certainly these softened vertebræ will be removed, the sound parts will come together and coalesce and the spine will once more acquire solidity. That this will occur, that it has occurred, you have only to look around you, and recall the great number of cases of deformed spine which you have observed, to obtain ample proof. I am sure you will remember persons who are thus deformed and have lived to a good old age and have enjoyed excellent health. Neither scrofula, tubercule nor any disease whatever, beyond the deformity, is

peculiarly liable to affect such persons, and you know that instead of this being a condition that tends to weaken the intellectual faculties, there is a proverb, "*spirituel comme un bossu*," or crooked-backed persons have the most wit. I can recall a case, at this moment in the city, of a man who is infinitely more deformed than this patient is ever likely to become, whose spine is so deformed that he is positively grotesque in appearance, and yet he is among the most witty and the most intellectual persons that it has ever been my lot to meet. The father of this man is now in a foreign country, in the performance of a duty, to which he was sent by the government of the nation.

Pathological Specimens.—You will remember, gentlemen, the patient who was before you at our last meeting, affected with extensive pneumonia of the right lung. You had an opportunity of listening to the sounds produced by his breathing. I am very sorry to say that he died.

I shall exhibit to you his lungs, so that you may be able to see that the diagnosis made at the time has been verified by the post mortem dissection. Here is the diseased lung and here is the opposite lung, which is in what may be called an entirely normal state; it is very light and it is, you see, very flaccid. Now compare it with the right lung, where you heard these characteristic sounds of pneumonia. You will remember the absolute dullness on percussion, the loud bronchial breathing too, not only at the base, but all over the lung, from the base to the apex, and you will remember, also, having heard along with that breathing some crackling and rattling. Let me, also, remind you that we asserted there was no liquid pleuritic effusion, for we could hear loud bronchial breathing down to the base of the lung. Here is the lung, as large and distended and hard as if it had been

injected with wax. It weighs forty-nine ounces, which is an enormous weight; the other lung weighs only eleven ounces. This lung is solid all over; its condition is that of pneumonia which has never gone beyond the first stage. It is simply solidified; there is no yellow, no gray hepatization; it is all red. I told you there was no pleuritic effusion, at least none of a liquid kind. I felt sure that there was none, because the sounds generated in the lungs were heard all the way down to its base. Now, you can perceive the reason of this; an old pleuritic false membrane bound the lung closely to the walls of the chest and left no pleural cavity into which a liquid could be poured.

This patient died very suddenly. Why he should have done so I do not certainly know, for he was no worse until just before he died. Here, however, is a large white clot in the heart which may have had something to do with his sudden death. There is, also, a little atheromatous deposit on the valves, which would seem to show that there may have been some degeneration of of the heart, which would necessarily impair its muscular power.

I have still another specimen to exhibit, which is very interesting. It is from a case of chronic dysentery. Most of you know that dysentery is a specific inflammation of the large intestine, which always begins in the rectum and increases upwards from that organ. If the patient happens to die early in the course of this disease, the lesions are found only in the rectum. This patient lived fifteen months with dysentery and here you observe a great thickening of the coats of the entire colon and rectum. You see the paleness of the whole mucous membrane and its roughness, and, scattered over its surface, white spots. These white spots are cicatrices of former ulcers, and, besides these cicatrices, the whole membrane

is covered with more recent ulcers, which have not healed. If you will trace the mucous membrane from below upwards, you will find the lesions are most abundant in the rectum and that they gradually diminish as you advance upwards. You could not have a better illustration of the lesions of chronic dysentery.

Popliteal Aneurism cured by Compression. By Geo. W. Bayless, M.D., Professor of Surgery, University of Louisville. Reported by R. O. Cowling, M.D., Assistant to Chair of Surgery.

John Murphy, an Irish laborer, aged 41 years, was admitted into the Louisville City Hospital, January, 1868; states that he has generally enjoyed good health; habits intemperate; occupation, digging pits, mining and sodding. Ten years ago had syphilis; was under treatment two months; no secondary symptoms. Six or seven years ago noticed a lump in right popliteal space, about as large as a hazel nut, which would go away at times and reäppear, generally remaining for two or three days, during which time knee would feel stiff; motion would be interfered with and he would have to sit with leg flexed. Last May, the lump began to enlarge; leg below the knee became swollen, with pain in top of the foot; quit work last Christmas on account of pain, which is now felt in region of the tumor.

On examination, the tumor is found to occupy the lower portion of the popliteal space; is circumscribed and about three inches in diameetr; pulsation and bruit distinct; by compressing the femoral, the walls can be made to collapse, the bruit and pulsation to cease; present health good; chest sounds normal; pulse sixty-four; although he states his age to be 41, has all the appearance of a man of 60.

Prof. Bayless determined to try, by means of compression, to coagulate the blood within the sac, before resorting to the Hunterian method.

A first attempt was made on January 20, 1868. The limb was bandaged from the toe to the knee and a horseshoe tourniquet was applied over the femoral in the lower portion of Scarpa's triangle. The patient refused to take chloroform and, the pain becoming intolerable, the instrument was removed, after being on one hour. The circulation through the tumor had been entirely arrested, but pulsation began immediately after the withdrawal of the instrument.

A second attempt was made on January 26. The instrument was applied in the same manner as before, at 11:45 A.M. Chloroform and ether were administered and the patient was watched closely to prevent tossing and to see if pulsation reäppeared. Compression was kept up until 2:40. Once during this period, namely at 2:05, the pulsation reäppeared, when the instrument was tightened. Although the anæsthetic was freely administered, a mixture of equal parts of chloroform and ether to the amount of eight ounces, having been consumed, its effects were transient and the patient suffered extremely. On the removal of the instrument pulsation immediately reäppeared, as strong as ever.

A third attempt was made on January 28. Instrument applied as before. To prevent its derangement, a "figure of eight" bandage was put over it. Chloroform alone was used as the anæsthetic. Compression was made at 11:40 A.M. and kept up until 3:35 P.M. Pulsation returned twice during this period—at 12:43 and 2:36—when, as before, the instrument was immediately tightened. Upon the removal of the instrument, the pulsation immediately reäppeared as strong as ever.

A fourth and final attempt was made on February 2d.

One-third of a grain of morphia was administered hypodermically and at 11:20 A.M. the artery was compressed. The tourniquet had been altered since the last time it was used; the pad for counter-pressure, which, on the previous occasion, had caused a great deal of the pain, had been removed and a curved plate, about six inches long and surrounding about one-fourth of the thigh, was substituted for it. The pad from the other limb was also removed and a wooden button, sewed beneath to receive a cylindrical compress of linen, about one inch and a half long, was fixed in its stead. The compress was placed across the artery, the more effectually to control its circulation and prevent its slipping from beneath its compressing force. At 12:16 morphia, gr. ¼, was again administered hypodermically, the first not seeming to have any effect. The patient expressed some relief from the new arrangement of the tourniquet, but still complains of great pain. Pulsation was felt at 12:35; instrument tightened and chloroform administered by inhalation. At 3:30 the tourniquet was slackened and no pulsation was felt in the tumor. It remained in this condition for an hour and twenty-five minutes, when it commenced again and soon was as strong as ever. It was allowed to continue for thirty minutes, when the artery was again compressed. Morphia, gr. ½, given by mouth at 5:40. At 6:25, pulsation; instrument tightened. At 7:50 the tumor suddenly felt hard. At 7:53 the tourniquet was removed and pulsation was found to have ceased. Heretofore, upon slackening the instrument, the patient has always felt immediate relief, but now he continues to suffer from pain, though it is removed. At 10 o'clock faint indications of pulsation are felt and, a quarter of an hour latter, it returned strongly. Compression was again made. Pulsation was felt at 1:05 A.M.; instrument was tightened, and at 1:30 A.M. it was loosened again. No pulsation was felt, nor did it ever return.

The duration of this last attempt, from the time the instrument was first placed on the limb, till pulsation was finally arrested, was thirteen hours.

The difficulty in the management of this case was always in keeping the patient quiet. Chloroform, ether and morphia were freely given, but, from idiosyncrasy and pain combined, they seemed to be almost without effect. Sometimes, from the struggles of the patient, the tourniquet would become disarranged and pulsation would reäppear; at other times it would come back, from no assignable cause. The patiently was watched constantly from the beginning to the end of the several attempts made to cure him. There was no sloughing or other ill-effects from the compression that was used.

The usual phenomena attending the establishment of the collateral circulation showed themselves. Pain was felt in the course of the peroneal nerve. The limb remained more or less cold for twenty-four hours, by which time capillary circulation was reëstablished.

The man was ordered to keep a recumbent position for one month, shortly after which time he was discharged. To-day, two months since pulsation ceased, upon examination, a hard tumor is found to occupy the position of the aneurism, almost as large as it was formerly. Pulsation and bruit have disappeared. The man complains of some stiffness in the limb, but is able to carry on his old trade of digging.

ORIGINAL CORRESPONDENCE

"Sit mihi Fas scribere audita."

BERLIN, PRUSSIA, May 15, 1868.

A twelve days' ferry over an unusually peaceful ocean and a thirty-six hours' ride in a continental steam coach have transplanted your friend and former protégé, from the hurry and bustle of the Queen City of the West in the new world, to the quiet and staid sobriety of one of the centres of art and science in the old. A few days for recovery from that most odious of all incurable diseases, sea sickness, and a little time for self-recognition after the radical change, in every conception of a country inhabited by civilized beings, which our ideas have undergone, leaves us cognizant of an obligation to the Lancet and Observer which demands fulfillment to-night. The presentation of our introductory letters everywhere procured us a favorable reception and, under the good advice we there received, we secured pleasant rooms at about one-half Cincinnati prices, inclusive of coffee served at any directed hour in the morning before leaving for lectures, "in bed," as they call it. Dinner and supper at a restaurant at any conceivable price, I am almost ashamed to say how little, and this is student life in Berlin.

And while our rooms are being arranged, will you step with us, as the novelists say, Mr. Editor, to the surgical clinic of Dr. B. deLangenbeck, who, with Virchow, Graëfe, Frérichs and Martin, forms the particular light in medicine in this section of the globe. Enter, then, under the guidance of two of our fellow-countrymen, whose assistance, on all occasions, we must ever gratefully re-

member; mount the successive flights and be ushered with us into the operating room of Dieffenbach's worthy successor. Here, as everywhere, the surgical department is crowded, many attracted by the fame of the teacher, many by the immense amount of material affording more than a sufficiency for a two hours' daily clinic, and many, as usual, to see blood shed.

The general arrangement of the room (every teacher has a separate one) does not differ from our's at home, except that they are scarcely so comfortable. Almost all the hospital buildings, and the city is full of relics of by-gone days, and all the lecture rooms are small and badly ventilated. The feature of peculiar excellence connected with them is their beautiful grounds, but more of this anon.

Langenbeck is a man of perhaps sixty years, average stature, face of eminently Prussian cast, a perfect cuneiform, benevolent aspect, hair and moustache an iron-gray, slender almost to attenuation, slightly stooped, still vigorous and in fine preservation. The clinic is thoroughly practical, but the great number of visitors and assistants most effectually prevent any view of his manipulations, except by the student who is called to the arena. This is a very excellent peculiarity of their mode of instruction. Each student is called in turn to a case, questioned and made to interrogate and examine thoroughly, witness the operation and is the sole party addressed in all the the succeeding remarks. I can best illustrate their character by his disposal of the first case, simple hydrocele. The student is made to state the several affections which could produce such a condition, to arrive at a diagnosis by exclusion and to give the treatment. The Professor then axpatiates, furnishes many analogous cases, in some of which a differential diagnosis would be difficult, touches on scrotal hernia in all its forms, fur-

nishes an epitome of the history of paracentesis with injections and proceeds to operate in the usual manner. He takes occasion to state, while the fluid is being drawn, that the common idea of adhesive inflammation following the injection of iodine diluted, is erroneous, as he has demonstrated by several autopsies in deaths from other causes; that it merely alters the secreting surface; that chloroform, on the other hand, is sometimes followed by adhesion of the vaginal surfaces, and so on through the clinic. The price of tickets is considerably higher than with us at home. Each lecturer charges two Friedrich D'or, about eleven dollars in gold, for either the winter or summer session. These sessions, or semesters as they are pleased to designate them, are two yearly, both by the same lecturer, and considered of nearly equal value. It is not necessary to take all the tickets to hear the lecturers. After one passes through the little process familiarly known as "developing the canines," and which Americans learn about as soon as any other sect, he pays only for the lectures in which he desires special instruction and visits occasionally at the other clinics.*

Of course everybody hears Virchow at once and everybody that can occupies a seat in his clinic. As it is necessary, however, to engage it some time before the session commences, the best seats two months in advance, and as we arrived a little late in the course, our fortune is to stand during the two hours of lecture outside of the rail which separates us like Jew and Gentile, but which, nevertheless, would be occupied by many, if it implied an inverted position part of the time, rather than accept the alternative. The circumstances under which I first saw him were so characteristic of the man, in many respects, that I may be pardoned for detailing them·

*Singular confession and astonishing action.—[Ed. R. & L. M. J.

Sauntering along the Charité grounds, in the half abstracted condition which a long journey always produces, our attention was suddenly arrested by a vehicle, in full speed, dashing along the road. It was one of the ordinary Droochkens, with which the city is crowded, and in which it is possible to ride over the whole place for ten or fifteen cents. The fact that such a lumbering old conveyance, with the driver, who is always the purest impersonation of sleepy hollow extant, could be urged into anything faster than a jog trot, was a phenomenon sufficient to dissipate the most apathetic reverie. Arriving at the gate, the solitary occupant rose, jumped from the vehicle while yet in motion, tossed the necessary coin to the driver and disappeared up the path. "Virchow," said our companion, and, hastening our step, we secured a position close behind him in the hope that we might be able to unravel something of the mysterious man before us, perhaps from his gait alone, as the old lady deciphered characters from a chirograph.

It must be confessed that we were somewhat disappointed in his appearance. Instead of the commanding or inspiring physique we had anticipated, a small man, with a short, quick, determined step, giving a nervous twitch to his whole body in progression; a face stamped strongly with the national characteristic, but chastened by hard study; a forehead expanded in every direction, with the lines that only deep thought produces; a peculiar glance, such as you have often noticed from eyes accustomed to microscopical research, lending rather a furtive expression, which is perhaps increased by the spectacles which he constantly wears; delivery slow, plain, the purest German, no gingle of rhetoric, no imagery, scarcely a gesture; merely a dictum which the lecturer deposes as law, without being at all dogmatical, and which is law.

There are students here from all quarters of the civilized globe. On my right stands a Swede, on my left, a Russian, in front a Scot, and scattered here and there, as everywhere, the ubiquitous American. The table is covered with specimens prepared by his assistants, all middle-aged men, from the resources of the Charitè. The stands in front of the seats, at which are seated the fortunate elect, are provided with a miniature railway, along which are trundled the microscopes after they leave the assistants. Full notes are taken everywhere. The subject this morning is the corpus luteum; a black-board and colored crayons are his only illustrations in that line. A recent ovary the demonstation. The yellow body is drawn between the layers and not upon or beneath, which finally and forever settles that much vexed question for me. This is his first lecture of the day, from 7 to 9 A.M., and I am told that he economizes his voice and strength for the remaining five hours, his usual allowance in medicine and politics. If an apology were necessary for the author of modern pathology for indulging at all in politics, it is certainly presen tin view of the fact, that he is an earnest and powerful advocate of the liberal party, in fact, the chief of the opposition to the divine right of kings. Yours ever, CAUL.

[*Correspondence Cincinnati Lancet and Observer.*

WESTERN LUNATIC ASYLUM,
HOPKINSVILLE, KY., June, 1868.

Here, for the first time in my life, it may not be amiss to say a few words in regard to this great charity of our State; for, when the mind becomes darkened and the reason dethroned, a first and most momentous question is, "what can we do with our unfortunate friend or relative? where can he be placed with the best prospects for

his relief, while he is tenderly treated and kindly cared for?" This is a question the physician is so often called upon to decide that, to him, it has a peculiar interest.

The asylum is situated about two miles east of Hopkinsville, upon a very gentle slope overlooking the Russellville road. The building is large, well proportioned and rather commanding in appearance. But what I most admire about it are the spacious, well-lighted and admirably ventilated wards, of which there are some fifteen or more, all heated by steam, each kept entirely distinct from the others and managed by its own special superintendent. I think I have never seen better wards, either in this country or Europe, and I feel quite sure I have never seen any more scrupulously neat and clean. Each patient has a separate little chamber, about ten feet square, which is well lighted, cheerful and as tidy and nice as the most fastidious could desire. The dining room, attached to the ward, is neatly furnished and supplied from the kitchen by a dumb waiter. I asked Dr. McNairy if he never had a smash-up of table-ware, but he very promptly let me know that his patients were never guilty of such violations of propriety.

The whole institution, including the extensive laundry, bakery, etc., is abundantly supplied with delicious freestone water, derived from a never-failing spring, situated on the grounds of the asylum. Hot water is likewise supplied for bathing and other purposes. As to the *management* of the patients, it seems to me to be in the highest degree satisfactory, the non-restraint system being adopted to the fullest extent compatible with the welfare of the patient himself and with that of his fellow-patients. I see firmness, but no *harshness*, displayed by the keepers of the various wards; indeed, I feel quite sure that nothing of the kind would be tolerated in the Institution. In passing through the wards, I noticed but

very few of the inmates alone in their rooms, most of them either in the ward or in the common sitting room attached. Some of the inmates, who can be trusted to do so, are permitted to pass unrestrained over the extensive grounds or engage in light manual labor, under the direction of the gardener. Others, in their promenades over the grounds, are always attended by a superintendent. The usual mode of restraint used here seems to be to confine the uncontrollable patient in a room to himself, in which there is nothing he can get hold of, with which to inflict injury upon himself. After the paroxysm passes off, he is restored to his ward again. What less could be done? What an improvement upon the old laced-jacket and hand-cuff system of by-gone years?

There is such perfect quiet reigning here that, previous to my visit to the wards, I could scarcely realize the fact that I was under the same roof with two hundred and eighty lunatics.

I have been not only entertained, but instructed, by the superintendent, Dr. James Rodman, whilst here, in regard to some of the diseases and their modifications peculiar to the insane. It is a singular fact, that upon a subject of so much interest to the general practitioner, there seems to be such a universal indisposition, on the part of those in a position to make direct observations, to write anything. The whole field of psychological medicine has been to a great extent neglected, and we hope it may be otherwise in the future, at least in our own State.

I need hardly say that I leave this Institution most highly gratified with its admirable management and working, and with a feeling of pride that is has been established and liberally sustained by our noble Commonwealth.

F.

SPARTANBURG, May 15, 1868.

As catalepsy is a rare disease, having only seen two cases in twenty-five years of practice, I send you this synopsis of a very interesting case to *me*.

My notes, I regret, were destroyed during a raid on this place, in 1865; the dates, however, have been in a "day-book." The names of the medicines used only recollected; their specific actions forgotten, with the exception of strychnine, iron and bromide of potassium, which, I am convinced, were instrumental in adding to the patient's comfort. I leave it to your better judgment whether it be worthy of publication:

June 28, 1864, I was called to see Miss G——, about 23 years of age, nervo-sanguineous temperament, with large brain, thoroughly educated and quite accomplished. I found her in the following condition: Great oppression of breathing, (respiration 28 and panting); pulse not much above the normal standard; forehead hot; face flushed; temperature of person and extremities almost natural; brows knit; tongue rather contracted, with red edges; questions answered readily, but abruptly; complained of pain in the head and felt a sense of complete uneasiness, with mental depression. Scrutinizing the case, positively and negatively, I could find no symptoms of disease in the lungs; there was no dullness anywhere; no crepitation; no mucous râles; the air entering the lungs, however, not thoroughly and expelled with short and hurried expirations; heart sounds normal; large and well-developed chest; no organic disease in abdominal viscera. I could come to no other conclusion than that my patient was laboring under some form of neurosis. The family history proving no hereditary taint of brain, heart or lungs, the following statement con-

firmed me in my diagnosis: The war had made her a refugee; deprived her of the chief comforts of life, not to say the luxuries she was always accustomed to; added to this she was affianced to one, (from or of whom she had not heard once for two years;) intense thought and disappointment produced irregularity of the catamenia, accompanied with severe headache. For some weeks, my visits would find no change in her condition, except more insomnia and confirmed hysterical symptoms, and about this time her spine became very sensitive to the touch. Some five weeks after this, my presence was hastily required, as the messenger said "she looked like one dying." Upon entering the chamber, she lay like one in a quiet sleep, (position, "decubitus horizontal sur le dos,") the comatose condition of catalepsy. I could move her limbs and put them in any position, except that of elevation. Pinching would cause a blush on the skin, but both pinching and pulling produced no evidence of pain or uneasiness. There was no disturbance or undue rigidity of the muscles; no falling or clenching of the lower jaw; pupils moderately dilated and not responding to the stimulus of light; there was no tremor of the palpebræ or oscillation of the eye-balls; the lids, when raised, showed them fixed and staring. She remained in this state for three days, then suddenly awoke. Apparently, for once a month, convalescing, she complained of violent headache, then became suddenly excited, talking wildly and rapidly, losing identity of persons and everything about her and making strenuous efforts to get out of the house, presenting the phase of acute mania. A few nights afterwards she again became comatose. Coming out of this attack, she was very much debilitated, with mind unhinged and wandering. These states would alternate between a continued silence at some times, and garrulous rhapsody at others. Added

to this, she was occasionally attacked with almost complete aphonia. For over two years I have watched her and found, at times, the gravest mental derangement. Her spine gives her great pain, scarcely enduring the weight of the bed clothes. In 1866, she was very emaciated from anorexia; it was astonishing to see what a small quantity of food sustained life; catamenia as yet irregular. In the fall of 1867 she got married to her betrothed; she has not had an attack of catalepsy for nearly two years; has not as yet become enciente, but is unable at times to leave her bed, from spinal irritation and debility. I saw her a few days ago; she had lost her voice, which has not returned above a whisper at this date, the 15th of May, 1868.

Treatment, "ex necessitate rei," was empirical; alterative doses of gray powders; occasionally, val. of zinc, cannibis indica, strychnine, various prep. of ergot, val. ammonia, and guiac., and finally, since the war, bromide of potassium, cupping, blistering and other counter-irritants to spine. I used chloroform repeatedly without aggravating or provoking the cataleptic tendency, but, on the contrary, tranquilizing and rationalizing, if I may so speak, her mental faculties. The most benefit, derived in her case, was from the use of iron, combined with strychnine, aloes and rhubarb and large doses of the bromide of potassium. Very respectfully,

L. C. K.

MEDICAL DIRECTOR'S OFFICE,
RICHMOND, VA., July 12, 1868.

My attention has been called to a letter, from Prof. Lewis A. Sayre, in the July number of your Journal, in regard to some resolutions presented to the American Medical Association, in 1864, by Dr. A. K. Gardner, of New York, in relation to "permitting medicines and sur-

gical instruments to be exempted from the list of articles contraband of war."

Permit me to correct a slight error of Prof. Sayre. He says: "Gen. Taylor, having learned that the Mexican army was in absolute want of medical and surgical stores, and, owing to the completeness of the blockade, he knew that they could get no supplies, he, therefore, sent Dr. Simmons, *under a flag of truce*, to visit their hospitals, ascertain their wants in these particulars, and gave an order to have them supplied from our department."

I visited the Mexican hospitals AFTER our occupation of the city of Matamoras—NOT "*under a flag of truce*," nor when they were closely blockaded. You will, I think, find in Dr. Gardner's letter to the Times, referred to by Prof. Sayre, the circumstances correctly stated.

Very respectfully,

J. SIMONS, M.D., Surg. U. S. A.

NOTE.—At the time that Dr. Gardner's resolutions were "tabled indefinitely," the propriety of "exempting from capture all surgeons, medical attendants and wounded, and to permit supplies to pass free to or from an enemy's hospital" was being discussed in Europe. With the exception of Russia, it is believed that all European nations have adopted this humane policy.—[ED.

COLUMBIA, S. C., May, 1868.

I have seen it somewhere noticed, several times, that Prof. Agassiz gives one hundred anatomical points of difference, between the negro and white races. Now that we are called upon so often to discuss this matter of unity or non-unity of the races, I would be under obligation to you, for giving, briefly, all the points of difference, as given by the great naturalist. Perhaps, you could get him to contribute an article on this subject to your inval-

uable journal, for the benefit of your numerous readers.

I am not aware that it is known to the scientific world, that the hymen of the negro woman is not at the entrance of the vagina, as in the white woman, but from one and a half to two inches from its entrance in the interior, with an opening below for the passage of the menses. I have examined a good many cases and have found this invariable. This I thought to be abnormal at first, but finding it constantly situated as above described, in examining cases during a practice of some fifteen years, I have concluded that this may be one of the anatomical marks of non-unity of the races. I will say, farther, that in this race (the negro) I have never found the hymen situated as in the white race, at the entrance of the vagina.

Very respectfully,

Your obedient servant,

E. B. Turnipseed, M.D.

Any information on this subject will be cheerfully published.—[Ed.

Kennebunk, Me., June 17, 1868.

The notice of a short article, in the May number of your Journal, from the pen of Dr. Turner, upon earache, leads me to suggest the use of another remedy, viz.: Tincture of Digitalis. I have used this with no little satisfaction in quite a number of severe cases. I have found it to succeed when the other usual remedies had failed. The manner in which I use it, is to drop one or two drops into the ear and then exclude the air with a piece of dry cotton.

I think this worthy of trial, especially should chloroform or ether, which is very good, not be at hand.

Yours, truly,

David Dana Spear, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

PROCEEDINGS OF THE STATE MEDICAL SOCIETY OF KENTUCKY. Meeting for Reörganization held at Louisville, April 2 and 3, 1867, and the Thirteenth Annual Meeting held at Danville, April 7 and 8, 1868.

The crowded condition of the Journal for July prevented a notice of this excellent work. Although quite a number of the most important committees failed to respond, when called upon for reports, still those who were present merit the thanks of the profession for the manner in which their respective topics were presented.

Dr. Porter's annual address (upon retiring from the presidential chair) was a comprehensive essay, upon the duties of the medical profession, in relation to themselves, the public generally, the sick and the charlatan. His well-known ability as a speaker, as well as a physician, renders it unnecessary to say more.

The report of the Committee on Registration of births, marriages and deaths, prepared in the form of a memorial, to the General Assembly of the State, is, if not the best, at least equal in diction, sound reasoning and accurate statistics, to any similar document lately published. The sole credit of this valuable paper is due to the chairman, Dr. Stanhope P. Breckinridge, who not only bestowed much labor in collecting the material embodied, but, when the Legislature assembled in Frankfort, he repaired thither, and, at much personal expense and sacrifice of time, endeavored to secure a reënactment of the registration laws. The bill failed, by reason of one of those unaccountable mistakes, that sometimes occur in

legislative bodies, and the session was too far advanced to correct the error. It is to be hoped that the profession throughout this, as well as every other State which has not a registration law, will exert their influence upon the members of their respective legislatures to have this essential law adopted.

We have space left merely to allude to the very excellent reports of committees; "the inoculability and transmissibility of tubercle," Dr. John P. Jackson, chairman; "epidemics" and "milk sickness," Dr. L. P. Yandell, Sr., chairman, with the interesting letter of Dr. L. P. Yandell, Jr., giving a graphic account ot the meeting of the International Congress, in connection with the Paris Exposition, to which he was an accredited delegate from the State Medical Society.

The volume is prepared in excellent style, tinted paper, antique type and neatly bound. It is to be regretted that the Committee on Publication was compelled (because of the exorbitant prices demanded) to go outside of its own State to have the work properly executed.

NOTE.—From want of space several Reviews have been omitted. These will appear in September.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

AMERICAN MEDICAL ASSOCIATION.—After waiting to see, in detail, the proceedings of this body, the following summary will be found to present all the material facts:

Assembled in Washington, May 5th; address of welcome, by Dr. G. Tyler; address, from Dr. Gross, the President, in regard to medical education, naval medical

school, schools for nurses, the study of veterinary medicine, etc.; speech of Prof. Gamgee, of England, upon the mutual relations of medical and veterinary science; debate in regard to the propriety of consultation with female physicians, which, after some uninteresting disputation, was terminated by unanimously and *irresponsibly* postponing the subject indefinitely; expulsion of Dr. Julius Homberger, of New York, for violating the code of ethics; introduction of the newly elected President, Dr. W. O. Baldwin, of Montgomery, Alabama, to the Association; much enthusiasm on the occasion; auditory "thrilled" as Dr. Gross said to Dr. Baldwin, "God bless you! God bless your people! God bless all of us!" excellent speech from Dr. Baldwin, wherein he counsels conciliation and recommends a general attendance, hereafter, on the part of Southern as well as Northern physicians; "great sensation," at the close of the speech, with congratulations and more than the usual amount of handshaking, etc.; an effort on the part of Drs. Gross and Davis to remove the general and *just* conviction throughout the South, that the Association sustained the Government, in its policy of making (during the late struggle) surgical instruments, hospital and medical supplies, etc., contraband of war; presentation (through Prof. Eve, of Nashville) of papers on pyæmia and albinism, by Prof. Joseph Jones, of Nashville, Tenn., one of the papers being referred to the Surgeon General U. S. A. and the other to the Smithsonian Institute for publication; appointment of a committee to report upon the policy of creating a library of American medical works; Dr. Edward Curtis, of the U. S. Army, appointed to report on the cryptogamic origin of disease, with special reference to recent microscopic investigations on this subject; papers presented by Dr. Sayre "on the treatment of club foot without tenotomy," by Dr. Hildreth on ophthalmology, by Dr. Elsberg on "hypodermic injections in syphilis," by Prof. Eve "on a safe and effectual operation for the radicul cure of varicocele," by Dr. Bozeman upon "the operation for vesico-vaginal fistula," with statistics of the successes obtained by Sims' mode, Simon's and his own; papers presented on climatology by Drs. E. A. Hildreth, Thomas Antisell, T. J. Horn and D. F. Condie; on cholera by Drs. Davis and Peters; "on plans for systematizing the records of meteorological observations and prevalence of diseases, accompanied by diagrams" by Dr.

Thoms, of New York, "on the use of disinfectants, for the prevention of scarlet fever," by Dr. N. L. North, of Brooklyn, N. Y.; a special committee, viz.: Dr. Elisha Harris, of New York, to report at the next annual meeting of the Association, "on the influence of quarantine in preventing the introduction of diseases into the ports of the United States"; appointment of the usual committees; entertainment by direction of Surgeon General Barnes at the Army Medical Museum, by Drs. Woodward and Curtis of the U. S. A.; (this consisted of the exhibition of photographs, some of them colored with wonderful beauty and accuracy, thrown upon a screen with an oxy-hydrogen microscope; the series of slides presented commenced with some *diatoms*, and then a few normal tissues and then pathological formations, these latter more especially illustrative of simple colitis and of enteritis in its different stages as observed in typho-malarial fever;) receptions by the President, Speaker Colfax, Judge Chase, Senator Morgan and Mayor Wallach. The meeting was, in all respects, successful and harmonious. New Orleans was, by invitation, selected as the place for the next meeting. All who can do so should attend.

LOUISVILLE, KY., June, 1868.

Editors of the New Orleans Journal of Medicine:

GENTLEMEN—In the number of your Journal for April, 1868, there appears an article, entitled, "Observations on Diphtheria; by Dr. H. D. Schmidt, of New Orleans." In this paper, there are several allusions to certain statements made by me in an essay which I once prepared upon this disease. As these allusions tend to place me in a very false position before the medical public, not only as a writer upon this subject, but as one who should be familiar with the elements, at least, of pathology, you will, I am sure, allow me the privilege of occupying a brief space in the July number of your Journal.

It may be asked, why should not this letter be published in the Richmond and Louisville Medical Journal, with which I am at present intimately identified? The reply is simple and brief. I respect the opinions of the readers of your Journal, and so value their respect, that I adopt the only course by which I can obtain a professional appearance before *all* of them. In addition to this, I hope, by sending a communication to your Journal

(which all impartial judges regard as unsurpassed by any publication in this country), to induce some of your editorial corps to do me the favor of appearing in the pages of the Richmond and Louisville Medical Journal.

I will not make any reference to Dr. Schmidt's elaborate description of the topography of the country surrounding the family, in which his *single* case of diphtheria occurred; nor to his demonstrations of the malarial element of the atmosphere, breathed by the mother of the child who suffered from diphtheria; nor to the statement made by him, that, after the failure of two physicians to diagnosticate the malady which prostated the mother, he identified the disease as typhoid fever; nor to the fact that the father of the child had several attacks of intermittent fever; nor to the explanation of the father's visit to him, which was to request the Doctor's attendance upon the future diphtheritic patient, who then had yellow fever; nor to the welcome information that, under proper treatment, the mother recovered from her typhoid fever, the father from his intermittent and the daughter from her yellow fever; I will not dwell upon the statement, that this poor child then suffered from intermittent fever, and subsequently to this (as though her cup of anguish was not yet full), that she labored under a remittent fever, which, in due season, disappeared, and then "she had typhoid fever," after the appearance of which the child's "disease had thrown off its last mask and stood there in the form of diphtheria."

I will not, as I said, make any detailed reference to these facts, because I do not think it right to harrow unnecessarily the feelings of your readers and because I cannot appreciate the relation which these statements bear to the title of the Doctor's article, "Observations on Diphtheria." I have alluded to these antecedent circumstances, only that I may be able to place the reader in entire possession of the facts which induced Dr. Schmidt to suppose that the yellow fever, remittent fever, intermittent fever and typhoid fever were *masks* of the subsequent diphtheria.

That most of the exanthemata may precede an attack of diphtheria, and so may possibly be regarded as *masks*, all physicians will admit; but that the diseases mentioned were masks of the subsequent diphtheria few will hesitate to deny.

In connection with the treatment of diphtheria, Dr.

Schmidt alludes to the use of an ethereal solution of bromide of iodine, as recommended in the essay specified, and mentions, "as the strength of bromine in this ethereal solution was not stated, I found myself at a loss about the strength of the mixture," etc. This remedy, recommended by Dr. Metcalfe, of New York, both for constitutional treatment and as a local application, may be used by all, and none need be at a loss in regard to its strength. The directions given are simple: "Saturate an ethereal solution of bromine with metallic iodine." If any quantity of bromine be taken, and ether sufficient be added to this to dissolve the bromine, there is, as a result, an ethereal solution of bromine. The liquid is then to be saturated with metallic iodine and the preparation is ready for use. The "topical application" consists of "five drops of the bromide of iodine to the fluid ounce of gum sirup."

I cannot appreciate the obscurity alleged.

Dr. Schmidt, in further discussing the subject of treatment, says: "I put the child on a solution of the chlorate of potassa, with a little quinine. This I preferred to Dr. Gaillard's remedy, bromide of potassium," etc.

I can only say, that I have never used the bromide of potassium in the treatment of diphtheria; that I have never recommended its use; that any allusion to it, in connection with the treatment of this disease, is not once made in the essay mentioned, while the use of chlorate of potassa and quinine is repeatedly mentioned.

I come now to that portion of Dr. Schmidt's article, in which he claims that I manifest much inconsistency, and a great want of accuracy, in regard to pathology; in which he makes certain statements that, if accepted as correct, would subvert the most clearly established laws of modern physiology.

I quote from the article: "Dr. Gaillard, in his essay on diphtheria, attaches great importance to the character of the exudate, and, reasoning from microscopical examinations and views of various pathologists, undertakes to prove that it is fibrinous and incapable of development and organization, and that, therefore, the disease must be one in which the blood undergoes a great change. Yet while denying development and organization to this exudate, he still admits it to consist of a 'fibrillation of fibrin,' containing in its network (besides other anatomical elements) granules and exudation-corpuscles. To my mind

this argument appears contradictory in itself and must be fallacious, for the mere 'fibrillation of fibrin' (like the formation of a crystal in the inorganic world) is already a step towards organization, and the presence of exudation cells proves both organization and development. When an exudation takes place from the blood-vessels, the liquid effused is homogeneous and, in consequence, not organized, but as soon as it assumes any form whatever, organization has commenced."*

More unfortunate statements could not have emanated from any writer. Charity would lead me to say nothing in regard to the manifest fallacy contained in each one of them, but there are two considerations which induce me to adopt a different course; the first is a natural desire to protect myself from the public imputation of ignorance, and the other is, that such assertions have a direct tendency to produce mischievous errors, in regard to the most important and well established laws of medical science.

To commence with the least important part of Dr. Schmidt's criticism, I will say, I have not attempted to prove that the exudation of diphtheria is fibrinous; for not professing to be familiar with the microscope, I have only given the opinions of such experts as Brettonneau, Trousseau and Empis, of France; Wade, Wilks, Sanderson and Greenhow, of England; Rokitansky and Virchow, of Germany; Laycock, of Scotland; Alonzo Clark, Hartshorne, Jacobi, etc., of America. Their opinions must be accepted or rejected in this connection and not my own. From all that I have read and seen, however, I will say that I accept their statements, without qualification or reserve.

Regarding the exudation of diphtheria, as a "fibrillation of fibrin," I have not attempted to prove that it is incapable of organization and development, for if consisting of fibrillated fibrin, organization is, of course, impossible. In other words, there was no necessity of my proving an admitted fact. Physiologists do not pretend to regard this as a disputed question; it has been thoroughly settled.

It is proper now to examine those criticisms of Dr. Schmidt which contain serious errors, and which, if un-

*Physiologists state that at this period *disorganization* has commenced — E. S. G.

corrected, must produce confusion at least, if not injury.

The Doctor states that my "argument appears contradictory in itself and must be fallacious; for the mere 'fibrillation of fibrin' is already a step towards organization."

It is difficult to understand how so accomplished a writer could make so serious a blunder. In the last edition of Dalton's Physiology, that accurate writer uses this language, the text being presented by him in italics "*The coagulation of fibrin is not a commencement of organization.*" Again, he writes of the coagulation of fibrin, "still less does coagulation indicate anything *like* organization, or even a *commencement* of it." He further adds, "as soon as fibrin is once coagulated, by any means, it passes into an unnatural condition. Lastly, he declares that, "in every instance, the coagulation of fibrin is a morbid phenomenon." As, according to all physiologists, coagulation of fibrin precedes its fibrillation, and as fibrin coagulated is already in a morbid and unnatural condition, it follows, necessarily, when fibrillation (a second or subsequent phenomenon in the course of devitalization) takes place, that organization is impossible.

Are we, however, to rely upon reasoning in this matter? Fortunately not.

Flint, in his recent work on "the Physiology of Man" and in that portion of it devoted to the examination of the blood, writes as follows: "The conditions under which the organization of fibrin has been assumed to have taken place, are in clots remaining after vascular extravasation and in fibrinous exudations, upon inflamed surfaces. The most important information is to be derived from a study of the anatomical character of such effusions. By the microscope and all means of investigation which are at our command, it is impossible to distinguish, in these effusions, anything but fibrin. There are no blood-vessels, nerves, nor any anatomical elements which would lead us to suppose them *capable of self-regeneration*, that distinctive property of all organized tissues, and, in addition, these are never developed. *The changes which these effusions undergo are retrograde in their character, and the fibrin, if not absorbed, remains as a foreign substance. The fibrillation, which takes place, is by no means an evidence of even commencing organization.*"

Again Professor Flint writes, even more emphatically, as follows: "There can be no doubt that *effused and coag-*

ulated fibrin is incapable of organization, and it may be further stated, as a general law, that no single proximate principle, nor mere mechanical mixture of proximate principles effused into any part of the body, ever acts in any other way than as a foreign substance."

With such testimony, as has been given, is it necessary for me to defend further the pathological statement, made in the essay, that fibrillated fibrin in the exudation of diphtheria is incapable of organization? I think not.

Dr. Schmidt again states, that I am inconsistent and incorrect in affirming that development and organization in a diphtheritic exudation are impossible, when I admit that this diphtheritic exudation "contains exudation-corpuscles."

In criticising what he regards as an inconsistency, or an error, on my part, in this connection, he states, as his physiological axiom, that "the presence of exudation-cells proves both organization and development," etc. I will not *argue* this point. All physicians admit, that as an authority on cellular pathology, no one ranks higher than Virchow. I will quote *his language on this subject:* "At present, we regard this body (the exudation-corpuscle) as the first distinct proof of degeneration." Again he writes of the presence of the exudation-corpuscle: "This is the manner in which disintegration of nearly all parts takes place," etc.

Can it be at the present day claimed, then, in the language of Dr. Schmidt, that "the presence of exudation-corpuscles proves organization?"

Dr. Schmidt claims, that the presence of the exudation-corpuscle is an evidence of "organization and development." Virchow states that the presence of the exudation-corpuscle is the "the first distinct proof of degeneration." Shall we say of this discrepancy—*lis sub judice?*

It is useless to discuss this subject farther.

The Doctor terms my essay "a compilation," yet he criticises my "remedy," "pathology" and "treatment." I will be justified, I hope, by all, in saying that, exclusive of the history of this disease up to the period when I commenced a study of it, and exclusive of the microscopic details connected with its pathology, I believe the essay to be original. If I am wrong in supposing it, except in these respects, to be so, I am ignorant of such portions of the literature of the subject as bear a resemblance, either in conception or diction, to the essay mentioned. Many

portions of this essay have been generally republished, and no one, so far as I am aware, has intimated that any of the matter, other than that named, had ever been previously presented to the public. I am content, however, to leave this question to the decision of others.

I will only say, in conclusion, that after eight years of study and observation, I have seen no reason to modify views, publicly expressed elsewhere, in regard to the nature, pathology and treatment of this disease.

Regretting that I have been unable to write more briefly, I am, Messrs. Editors, with the best wishes for the success of your Journal, Very truly, yours,

E. S. Gaillard, M.D.,
Prof. of General Pathology and Pathological Anatomy in the Kentucky School of Medicine.

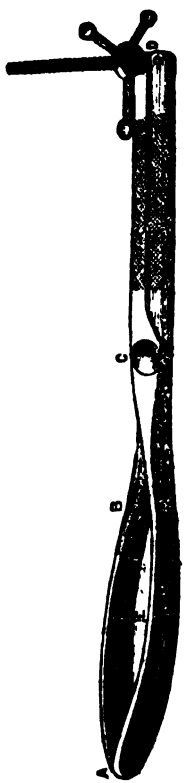
Dr. C. F. Taylor's Splint for Hip-joint Diseases.

In disease of the knee and ankle, and dislocation of the hip-joint I have been in the habit of using what may be called the *expectant* treatment. A simple apparatus is made, attached to the shoe and extending to the perineum, where it terminates in a well-padded crutch, turned outward so as to rest under the ischium. The apparatus is made a little longer than the leg—with a contrivance for extending when needed—so that, in standing or walking, the heel never reaches the ground and, of course, the whole weight of the body rests on the instrument. The patient then has motion of the joint, but no weight is thrown upon it. The result of this protecting, expectant treatment has been so satisfactory, that it suggested the idea of incorporating it with the counter-extension hip-joint splint. The result is shown in the accompanying figure. The splint is extended to the bottom of the foot and turned under it, from which position extension is made. Adhe-

sive straps are applied to *both sides* of the *whole* leg, in the usual manner, the inside strap terminating in a buckle (*a*) and the outside strap terminating in a short piece of webbing, which is passed through a slit in the apparatus, thence under the foot through another slit (*c*) at the end of the foot-piece and buckled to the inside strap just above the internal malleolus. Thus extension is made from the bottom of the foot. Thus, also, when the patient attempts to walk, it is the instrument which strikes the ground and sustains his weight, without in the least increasing the strain on the adhesive straps. In fact, it is an ever present crutch, allowing motion of the joint, but not allowing weight to be borne upon it. Extension is kept up continually, more surface is allowed for the adhesive straps and only the legitimate strain is ever thrown upon them—that which antagonizes public action—but never the weight of the body. There is one other advantage which this instrument has over others. Usually we have to depend much on the care and judgment of others—the patient's parents, friends and nurses. With the splint terminating in the middle of the leg, there is no definite point where it should be and hence no guide to the eye or definite indication by which experienced persons can know if the apparatus is properly acting. Hence the difficulty of getting the most careful directions carried out. But by the crutch and extension splint combined, the patient himself knows at once if the instrument is acting or not. The least slipping or relaxation of the straps makes it longer under his foot and impedes his walking and he desires it reädjusted. But even if it were not actually extending the hip—and after the tonicity of the muscles is once overcome, if often need not—the patient is entirely safe from the pressure of weight and concussion in the joint. He walks, but the leg hangs suspended. Indeed, many have advised—as I sometimes have when circumstances were such that nothing better could be done—patients to wear a thick sole on the foot of the *well* leg and use crutches, letting the lame leg hang. The only difficulty is in carrying the plan into practice with sufficient perseverance and uniformity. If the crutch can be attached to the leg, as in this instrument, and concealed from view and always ready with its protection, the results of the expectant treatment might be better.

CEPHALOTRIBE.—Dr. Paoli, of Chicago, has devised a cephalotribe, differing from that of Prof. Hodge in the the following particulars: It is nearly a pound lighter; its blades, five inches shorter, their tips coming in contact with each other instead of being separated. The instrument is sufficiently strong to press out the contents of the head and to retain so firm a hold as to enable the obstetrician to draw down the fœtus without the necessity of changing instruments.

The following is Dr. Paoli's description and cut of this instrument:



It is an acknowledged fact that, of late years, on the continent of Europe, the cephalotribe has been preferred to the old instruments in performing embryotomy.

Many of the profession have had prejudices against the above instrument, on the grounds that it was so heavy and clumsy and that its use was attended with great difficulties.

In improvements on the valuable instrument, our distinguished American accoucheur, Prof. Hodge, stands foremost. As an improvement on Prof. Hodge's, I have constructed one (in consultation with our excellent German instrument maker, Degenhardt, here in Chicago) which, as will be easily seen by the description, is not only lighter and easier in its application, but also rotations of the fœtus' head can be performed in the smallest space of the pelvis.

The instrument being made of strong steel, well tempered, is capable, under the influence of the screw, of compressing any fœtal head.

The whole weight of the instrument is two pounds and a half.

From A to B, seven inches; from A to C, 11 inches; from C to D, 8 inches. The width of the blade, one inch. Horizontal curve, one inch. The space between the blades of the widest part, when the instrument is closed, is only one inch.—[*Chicago Medical Journal.*

A Remarkable Case.—At the late session of the Massachusetts Medical Society, in Boston, Dr. John M. Harlow gave the history of a man named Gage, who, while blasting rocks at Cavendish, Vt., in 1847, had a tamping iron three feet seven inches long and one and a quarter inch thick and tapering to a point, forced through his head, it entering the left check and coming out about the centre of the top of his head. Dr. Harlow, who attended the man, gave the daily symptoms of his patient and said that in fifty-nine days he was able to walk and ride, and was soon nearly as well as before, although his intellect was somewhat affected. This is considered the most remarkable case of the recuperative powers of nature and has been doubted by many prominent surgeons. Gage died May 21, 1861, twelve years, six months and eight days after the injury. Dr. Harlow procured his head and has presented the skull to the Warren museum of the Harvard Medical College. Dr. Bigelow said he saw Gage twenty years ago and was then satisfied of the reality of this wonderful case. He also said a tube of iron five-eights of an inch in diameter and about five feet long passed through a miner's head, while blasting coal in Ohio, and was pulled out by a fellow-miner. The injured man was introduced to the audience and Dr. Jewett, the attendant physician, recounted the case in detail.

Epistaxis and the Means of Arresting it.—Dr. John Thompson (British Medical Journal—Canada Medical Journal) recommends the following simple and, in his hands, very successful treatment, as a substitute for the ordinary method of plugging the nares. A strip of lint, as broad as the finger and twice the length of the nasal passage, is folded over the "bowl end" of an ordinary director and introduced along the floor of the nostril until it reaches the throat. The director is then withdrawn, "giving it a wriggling movement, so as leave the lint rumpled and loosely distending the passage. The result is, that the blood rapidly permeates and distends the lint, a large coagulum is formed and the bleeding completely arrested."—[*Humboldt Medical Archives.*

Transfusion of Blood.—A German medical journal gives the account of a case of poisoning by exposure to the vapors of burning charcoal, in which transfusion of

blood, from the arm of a robust man, effected a satisfactory cure, after every other effort at restoration had failed and the patient was believed to be dead.

THERE are at least 2,500 pieces of metal which must be selected, handled and adjusted in preparing each page of this Journal for the press, and these pieces, after passing through the press, have all to be taken apart and distributed, into their proper compartments, in the printer's "case." Is it not wonderful that mistakes do not occur in each line? Yet, if there is a single letter wrong, in a long article, some self-important or ignorant man thinks that his reputation is ruined. With all these difficulties, which it is only necessary to state that they may be appreciated, no errors are usually manifested, when contributors write clearly and punctuate correctly. Such is the triumph of modern printing.—[*Ex.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

DECISION OF CHANCELLOR SHACKELFORD IN THE GREAT MEDICAL COLLEGE CASE—DRS. JENNINGS, EVE AND JONES SUSTAINED.—On yesterday morning, Chancellor Shackelford delivered an elaborate written opinion upon the points involved in this case, from which we make the following abstract. After reviewing the facts of this case and referring to the questions made by the parties, he was of opinion:

1. That no contract or agreement made between the parties composing the original faculty, before they procured the lease of the Medical College from the University of Nashville, can be looked to, in determining the rights of these parties.

2. That this lease made by the University of Nashville to Drs. Watson, Buchanan, Bowling, Winston, Porter, Lindsley and their successors, on the 19th of October, 1850, is the only thing that can be looked to, and it does not in law create a partnership, in the legal sense of the

term; therefore, the court cannot appoint a receiver, as it might have done, to take charge of partnership property and close up the firm, but

3. The lease having been made to those parties and their successors, it was not the intention of the Universiy of Nashville to vest in them any right of property in the Medical College, but simply the right to conduct a Medical School in the property leased, and this right was vested alike in them and their successors.

4. And, therefore, upon the death of any one of them, his interest in the Institution did not descend to his personal or real representative, nor was it liable to his debts during his life time, neither did it survive to the remaining original lessees.

5. For by the terms of the lease, when a chair became vacant, or a new one was created, the faculty of the Medical Department had the right to nominate the party to fill it, but when nominated, he became a "successor" in the language of the lease, was embraced in its provisions, drew his powers and privileges from it, and the University, which granted it, became at once equal to and independent of the other members of the faculty as fully as though he had been named in the lease, instead of being embraced under the term of successor.

6. Inasmuch as complainants, Jennings, Eve and Jones have been regularly constituted "successors" in accordance with the term of said law, they are entitled to all the rights, privileges and perquisites arising from their partnership, and as the power creating the Medical College has not provided any mode by which they can be expelled, no such power exists, either on the part of the University of Nashville, which yielded up all control over the Medical College during the existence of the law, nor on the part of the original lessees, because they did not exercise any such power under the provisions of the law.

7. Therefore, the acts of defendants, Bowling, Lindsley, Winston and Briggs, in attempting to expel Dr. Jennings and to vacate the chairs of Drs. Eve and Jones, was unauthorized and not warranted by the provisions of the lease or the powers vested in them. That the complainants, Jennings, Eve and Jones, are entitled to fill the several chairs in the college to which they have been respectively appointed, and are entitled to be protected in the enjoyment of their rights and privileges pertaining

thereto. That the defendants, Bowling, Lindsley, Winston and Briggs, be enjoined and restrained from interfering with or molesting them, and that they be permitted to lecture in the college, enjoying all the rights and privileges pertaining to their chairs and bearing their proportion of the expenses of the Institution.

8. And, as a result of the foregoing principles the court is further of opinion that the appointment of Drs. Maddin, Calender, Nichol, Buchanan, Van S. Lindsley and H. M. Compton was unauthorized and void; that it was done in violation of the injunction of this court and they have acquired no rights thereby; that they are intruders and will be enjoined from lecturing or interfering with the complainants, Jennings, Eve and Jones, in their duties as professors in said college, and a decree will be entered in conformity with this opinion.—[*Republican Banner, June —th.*

Medical Department of Washington University, Baltimore, Md.—Two important changes have, since the last session, been made in this school. The vacancy created by the death of the widely-esteemed and lamented Foard has been filled by the election, to this chair, of Dr. C. W. Chancellor, of Virginia. Those who are acquainted with Professor Chancellor are sure, that he will ably represent the chair of anatomy. During the recent war, this gentleman occupied many important positions, both executive and administrative, and he discharged the duties, appertaining to these trusts, with uniform zeal, fidelity and ability. His election will, justly, bring great strength to the school.

Professor Francis T. Miles, of South Carolina, is announced as professor of microscopic anatomy and practical physiology.

The writer of this notice, as an old pupil of Dr. Miles, congratulates the school on having secured the services of this distinguished gentleman. He is a teacher of great ability, having naturally most of the qualifications requisite, and to these have been added the great advantages of experience and success.

Professors Chancellor and Miles are certainly acquisitions to Baltimore and to the medical school, with whose future they are identified.

Medical College of Alabama.—The friends of this

college will be glad to learn that it has been reöpened. We quote from the circular received: "The Faculty has been reörganized and a full corps of professors are now ready to devote their time and energies to the cause of medical education in the South." "The professors are all Southern men, born and nurtured on the soil of the South, and now, in the hour of her adversity, they are willing and anxious to do all in their power to raise her to that high destiny which no reverse of fortune or of war can snatch from her sorely tried and faithful sons." Terms: $140 for the session; demonstrator's ticket, $10; matriculation, $5; graduation, $30. Handsome premiums are offered for excellence in various branches. The circular is closed with an appeal to all, for encouragement and support.

Medical College of the State of South Carolina. Professors Chisolm and Miles have resigned from the chairs which they respectively filled. Professor R. A. Kinloch has been transferred from the chair of materia medica and therapeutics to that of surgery, made vacant by the resignation of Professor Chisolm. Dr. George E. Trescott has been elected professor of materia medica and therapeutics in the place of Professor Kinloch, transferred, and Dr. Middleton Michel has been elected professor of general anatomy and physiology, in the place of Professor Miles.

Medical Department of University of Louisville. Professors Henry Miller, H. M. Bullitt, Lewellyn Powell, Lewis Rogers and David W. Yandell have resigned their chairs in this Institution. The names of these gentlemen are entirely familiar to the medical public and the arduous services rendered by most of them have been justly valued and fully appreciated.

The chairs made vacant have been filled by the election of Drs. Theodore S. Bell, John S. Crowe, L. P. Yandell, Jr., and E. R. Palmer, all of Louisville, Ky. Dr. Palmer, having recently entered the professorial circle has, of course, had little experience as a teacher; as the son of one of the best teachers in the West, however, and being, as it is said, a close and careful student, his friends naturally expect that he will discharge the duties of his chair with fidelity and zeal. Dr. Yandell has lectured, during one session, at Memphis, Tenn. Having had the advantages

of a careful professional education and an opportunity of improving this, by European travel, he brings to his chair many of the essentials that ensure success. Dr. Crowe is without experience as a teacher, but a good education, the enjoyment of every facility in a preparation for his branch, with a large and long experience, should certainly make him qualified to discharge, efficiently, the duties entrusted to him. Of Dr. Bell it is not necessary to speak. He is well and honorably known as an excellent practitioner of matured judgment, as a writer of marked erudition and as an experienced teacher, abundantly qualified to secure new triumphs in an old field, and to bring honor to the Institution which has secured his services.

PRIVATE CLINICAL INSTRUCTION IN LUNG AND EYE DISEASES.—Drs. Donaldson and Chisolm, Baltimore, Md., propose taking, during the winter session of the University of Maryland, private classes of students and others to instruct in their *specialties*. The Baltimore Lung and Eye Dispensary, which is under their charge and control, will afford them ample material for the demonstration of a variety of these diseases, thus offering great practical advantages to medical students. Diseases of the lungs, heart and throat, by Frank Donaldson, M.D., professor of physiology, hygiene and general pathology in the University of Maryland. Diseases of the eye and ear, by J. J. Chisolm, M.D., late professor of surgery in the Medical College of the State of South Carolina. These gentlemen are thoroughly accomplished in their specialties and offer great advantages to all who will give them a fair trial. They will do more than they promise—a rare virtue.

NEW SYDENHAM SOCIETY'S PUBLICATIONS.—Lindsay & Blakiston, Philadelphia, having made arrangements with the Hon. Local Secretary Richard J. Dunglison, M.D., by and with the approval of the Society's agent in London, to act as agents in the United States for the publications of the New Sydenham Society, announce that they are now prepared to receive subscriptions for the year 1868, at ten dollars, payable in currency and invariably in advance, and to furnish works of the previous years at the same rate and on the same terms.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Medical Examiners of Life-Insurance Companies. At the present day, life-insurance is so common, that all which appertains to it becomes a matter of interest to every citizen, and its medical relations constitute an important element, in the daily labors of a large number of physicians. In connection with these facts, a brief presentation of some of the errors, manifestly existing among many medical examiners, may be appropriately made in the pages of a medical journal.

It is not necessary to cite statistics to show how rapidly life-insurance companies have multipled and to demonstrate, as a consequence, the largely increasing numbers of those, whose lives are annually insured. These facts are familiar to every one. In almost every city, the chief American insurance companies are represented. In not a few, many foreign companies are in successful operation. The same is true of most of the towns and, indeed, even in the large villages, these companies are being rapidly and consecutively established. Wherever there is an office or the "branch" office of a company, there is to be found the medical examiner. One, therefore, easily appreciates the large number of such examiners and the great and increasing importance of this subject to the profession.

What are the duties of these examiners, and what are the relations which they bear to the general and professional public, to the companies represented and to them-

selves? These are, severally, questions of manifest interest and of practical importance.

Beyond a few manuals, imperfectly and superficially prepared by life-insurance companies, in relation to subjects which necessarily can be appreciated only by those professionally educated, these duties and these relations have not been defined. Each examiner must think and act, according to his individual capacity, his observation, his judgment and integrity, and as these great qualifications vary almost as infinitely, as their representatives, it is evident that, as a class, medical examiners are governed by no fixed rules, in the discharge of their duties. Each examiner is a law unto himself. What is the consequence of such a condition. The answer is familiar to every one who has, even cursorily, reflected upon this subject. How painfully common it has become, to hear of errors and acts on the part of medical examiners which reflect discreditably upon the whole mass of the profession.

It is not the purpose of the writer to indicate the duties and respective relations of examiners, but to call attention to several of those errors of omission and commission which are working such gross injury to the medical fraternity, in the estimation of all, whose esteem is creditable or desirable. If such a course can induce more matured thought or more careful action, the writer will have the satisfactory consciousness of having discharged (however imperfectly) one of the many duties of the journalist, and of having aroused an interest, which, by the action of the more competent, may lead to necessary changes and valuable results.

What would be the professional or even public judgment, in regard to the physician, who deliberately visiting families, in which a professional brother habitually attended, offered to do the practices of these families at the same or at a lower rate of remuneration? Would he

not be justly scorned and irredeemably condemned? Yet, physicians visit insurance companies and (hardly credible to relate) offer to do their work, for a less sum, than the paltry fee which is allowed by the company and which is adopted by the *concerted* action of the medical public. What punishment is too severe for so irreparable a breach of personal as well as professional propriety? In the first instance, the known poverty of a family may cause, in a generous mind, the impulse to bestow a disguised and needed charity, but, in the last, there is usually solvency, generally a plethoric wealth, and there is nothing which can redeem the enormity of the proposition or palliate the baseness of the act.

When it is known that this course has been adopted by men, otherwise correct, it shows how necessary it is, that proper attention should be bestowed upon this subject.

Another serious error, so common as almost to be generally observed, is for the examiner of a company to present the merits of his company to the uninsured, *often to his patients*, and to induce them to become applicants for insurance.

Surely, if any one will seriously reflect upon such a course, he must admit, that it is wholly unjustifiable and inexcusable. One of the chief provisions made by all companies for their safety is, that the medical examiner shall receive the same fee, whether the applicant be rejected or whether the risk be taken. The object of this policy is clearly to place the examiner beyond and above the influences of self-interest and to guard the company from those risks which, by a contrary course, would certainly be entailed upon them. Some physicians may claim, that the same fee is paid, because the same service is rendered, but surely this is not the reason, for every candid mind must admit, that did insurance com-

panies actually offer in all cases of a rejected application a less fee (on the ground that they received nothing in such cases) there would be no difficulty in securing as many medical examiners, as might be desired.

The object of a uniform fee is clearly to obtain an unbiased and impartial professional opinion, and upon this to base incurred risks or absolute rejections. More briefly expressed, the danger to a company must bear a direct relation to the self-interest of the examiner, and this danger is destroyed (so far as it can be done by the company) by destroying the self-interest of the examiner. The same principle is manifested, wherever a company is represented, by the creation of an officer whose functions are entirely distinct from those of the examiner. The *agent* is a deeply interested party, confessedly so, and for this reason, no company will allow an agent to be the examiner. As an interested party he could not possibly be impartial: "Aliquis non debet essec judex in propria causa."

It may be asked, in what way does an examiner make himself an interested party, when he induces any one to seek an insurance. The answer is, clearly, that he is not, only interested *in securing money, to the amount of his fee*, but by becoming actively engaged in obtaining applicants for insurance, he contributes largely to the income of the agent, who, in turn, uses all possible influence to have the examiner retained in position.

The whole proceeding is indefensible; it is unjust to the company, for, under these circumstances, the most upright and competent examiner can not be impartial, can not safely guard the interests entrusted to him; it is to a certain extent, also, sustaining a collusion with the agent, for no company would consent to have the safety or impartiality of such medical examination destroyed, by the existence of self-interest on the part of the examiner.

Lastly, if the proceeding were, in all other respects, unobjectionable, it should be unsparingly denounced, from the fact, that the examiner is engaged in a course wholly derogatory to the dignity, respectability and propriety of a physician; he is descending to the base and unworthy act of soliciting fees, of "drumming" for practice and for bread; destroying his own respectability and injuring (so far as he is capable inflicting injury) the public estimation of those who have the misfortune to be affiliated with him.

There can, of course, be no objection to a plain statement, on the part of an examiner, as to the solvency, equity and reliability of a company, but solicitations, inducements and persuasions are too manifestly unjustifiable to be countenanced or excused.

If it is justly held to be dishonorable to solicit practice, it is certainly not less so, as a medical examiner, to become to society a "pestilent fellow," whose sordid attentions originate in the hope of a fee, and whose persecutions cease upon the promise of it.

One may tolerate, in a quest of practice, the ordinary *ruses* to which those who do not respect themselves or their profession ingeniously resort. The fictitious devotion to study; the wily calls at large residences, with the old apology of having mistaken the house; the purchase of the unnecessary horse and vehicle; the rapid and dreary rides in the ostensible discharge of a notoriously intangible practice; the professional vehicle standing conspicuously and long at hotel entrances and before the doors of those whose patronage suggests success; membership in charitable associations and the coveted title of "clever fellow" in club-rooms; the late entrance into all places of assembly and the inevitable summons by the sexton or doorkeeper; the startling number on the prescription paper; an indomitable system of social

visiting, in which time is industriously expended, in the speculative petting of children or in a lucrative flattery of their parents; that absurd air of affection, patronage and protection in the sick-room, which, as remunerative "deportment," would have made a Turveydrop green with envy; a hypocritical affability, didatic pretension and dogmatic grandiloquence with the uninitiated, which, in the character of Pecksniff, Mr. Dickens has made so familiar and so disgusting; the well-worn pocket-record, crowded in its pages with abtruse hieroglyphics and loaded with bedside notes of cases, whose history has been drawn from imagination, etc. These methods to secure subsistence are familiarly ludicrous and justly contemptible, but the "drumming" for insurance fees, like the solicitations for practice, is irredeemably disgraceful and intolerable.

A minor error among examiners is the omission to ask whether the applicant has previously been examined. It is notorious, that some agents, for dishonest purposes, secure the appointment of several examiners, on the part of the companies rrpresented. In a few, rare instances, as from the frequent sickness or absence of the regular examiner, this may be necessary, but it is often done to furnish the opportunity of securing "a risk" and fee, through one examiner, when the applicant has been previously rejected by another. Justice to the company, to the patient, to the reputation of the examiner and to society would be subserved, by the habitual use of this simple and useful interrogatory. The best auscultator would be more on his guard and certainly more careful and accurate, if aware that he was examining one who had been, by a competent examiner, previously rejected.

Granting that there are these derelictions on the part of examiners, how are they to be efficiently prevented and the perpetrators of them adequately punished? The

answer is simple. By the sentiment of the profession; that irresistible force which sustains always the upright physician and subjects, to just scorn, him who has forfeited his claim to respect. Apart from all concerted action on the part of companies, this force is alone sufficient to purge the professional body of those who disgrace it. Let this force be always fully and unsparingly applied, for unimpeachable character is one of the chief essentials ot professional life; after a long life-time indeed of struggle, of mental and physical toil, it is, often, all that remains to dignify and adorn the declining years of the faithful physician. If all that is so often asserted, about "the divinity of our art," "the nobility of our calling," etc., be not the vilest rant and disgusting fustian, let the voice and sentiment of the profession ostracise the physician who stains and degrades his calling. Unlike those in most avocations, there are few physicians who can attain actual wealth, lucrative office or profitable station; but it is in the power of all to contribute in securing for the profession, as a whole, that high tone, true dignity and elevated character, which wealth can not buy or bring, and which poverty and misfortune are powerless to destroy.

An Analytical Deparrment.

"Qui e nuce nucleum esse vult, frangit nucem."—Plautus.

A purpose, long contemplated, for the improvement of this Journal, is now carried into operation.

From the large list of foreign and domestic exchanges, there will be briefly presented an *analysis* of much that is specially interesting and valuable. This will be done in a very brief space and readers may thus obtain, by a small expenditure of time and attention, valuable material that has been expensively and laboriously collected.

Every effort will be made to sustain this department successfully and, it is believed, that the undertaking will be a source of mutual satisfaction and profit to both the supporters and colloborators of the Journal.

Physicians and students are earnestly invited to contribute to this department and, when doing so, they are asked to present what has been read by them, with all possible brevity.

To make room for this new department, the Journal has been enlarged.

The Pacific Medical and Surgical Journal complains, that one of the articles from that journal was published in the Richmond and Louisville Medical Journal, without credit having been given. As the article was published in the Eclectic Department, there was manifestly no claim to originality in regard to it. The charge is just and the error is regretted.

This is a fault, however, common to all journals and one may, in this connection, safely write ex uno disce omnes. No medical journalist, so far as has been observed, has been able (however conscientious the effort) to avoid this error; a fact doubtless *very familiar, indeed,* to the complaining editors. It is unpleasant to remind them of this, but they must accept the justice of the old Latin precept, "Ab alio expectes, alteri quod fecisti."

Advertisements Editorially Noticed.—For nearly three years, the editor of this Journal has, uniformly, refused to notice, editorially, anything published in the pages devoted to advertisements. The reason for this course was that it was difficult and inconvenient to obtain true and reliable information in regard to these various subjects and that, without such information, no statement could be published.

The rule has been so far modified that, where actual knowledge of the merits or merchandise of any individual exists, a brief notice may be given. Such information may benefit the supporters of the Journal and will probably improve the business management of the work.

The Journal has again been enlarged. Every effort is being made to render it worthy of the support of the profession.

Will not the patrons of the work *insure* further improvements, by inducing their friends to become subscribers. It requires little effort to effect this, and the result will be to secure, to each subscriber, a larger and better return for the amount contributed. Many are thus generously working and the effect is already apparent.

The editor records his thanks for the support now given and pledges himself to render the fullest return for all resources placed at his command.

In Memoriam.—Died at San Louis Potosi, March 18th, 1868, Dr. James Hunter Berrien, of Savannah, Ga., late surgeon and medical director, Confederate States army, in the thirty-second year of his age.

Dr. Berrien was the son of the late John Macpherson Berrien, of Savannah, former Attorney General of the United States in the Cabinet of General Jackson and Senator in Congress from Georgia.

He graduated in Philadelphia in 1856, served as one of the resident physicians of the Blockley Hospital and was afterwards appointed a surgeon in the United States army.

Upon the secession of his native State from the Union, serving at that time at a distant military post on the Pacific coast, he threw up his commission in the Federal army and, joining his fortune with his native South, was

at once commissioned, by President Davis, a surgeon in the regular army of the Confederate States.

Dr. B. served with distinguished ability in Richmond, Va., and, subsequently, as medical director of General Magruder's department in Texas.

On the termination of the war, he removed to Mexico, where he engaged in the practice of medicine and had already established a reputation for skill and proficiency in his profession, when his career of usefulness and love was arrested.

He was a high-toned and cultivated gentleman, of fine classical attainments, having achieved a first-class reputation when a student at Princeton; the soul of honor; pure and upright in all his dealings with his fellow-men and conscientious and honorable in his professional associations; a devoted brother and a worthy son of a noble sire. Requiescat in pace. A. J. S.

Died.—At Parkersburg, West Virginia, on Sunday, July 12, of puerperal fever, Nannie Preston, wife of Walter Coles., M.D., and eldest daughter of the late Hon. Wm. Ballard Preston, of Virginia, aged twenty-five years.

NOTICES.

Fougera's Cod Liver Oil.—When the advertisement of Mr. Fougera was given to this Journal, it was agreed, that at some time during the year, a fair statement should be made regarding the virtues of the oil manufactured by him. The statement is accordingly published, not as a careless and idle eulogy, but as the result of observation and testimony.

Both in this State and in Virginia, private practitioners have been questioned, in regard to their experience with this preparation and the testimony has, without exception, been extremely favorable. The general belief is, that the oil is equal to any that is made and that the blending, pharmaceutically, of iodine and bromine with it, produces

more satisfactory results, than where good oil and some preparatio of iodine are given separately. The out-door department of Bellevu Hospital has, under unfavorable circumstances, experimented largely with this preparation and with excellent effects. The editor of the Cincinnati Lancet and Observer states, that he has "used this oil, in the dispensary of the Miami Medical College and in private practice, with great satisfaction. The addition of iodine and bromine evidently increases the efficiency of the original oil."

All the testimony received has been equally satisfactory and it is believed, that this oil can, with safety and justice, be recommended to the profession.

THE issues of this Journal, for January, June and July, 1868, are exhausted. Fifty cents each will be given for every copy of these numbers.

BOOKS AND JOURNALS RECEIVED.

The Indigestion: or Diseases of the Digestive Organs Functionally Treated. By Thos. King Chambers, Honorary Physician to H. R. H. the Prince of Wales, Consulting Physician and Lecturer on the Practice of Medicine at St, Mary's Hospital, Consulting Physician to the Lock Hospital, etc. Second American from the Second Revised English Edition. Philadelphia, Henry C. Lea, 1868. From the Publisher.

On Diseases of the Skin: A System of Cutaneous Medicine. By Erasmus Wilson, F. R. S. Seventh American from the Sixth Revised English Edition; with Twenty Plates and Illustrations on Wood. Philadelphia: Henry C. Lea, 1868. Through Cromie & Sherrill, from the Publishers.

Report of the Board of Managers of the Pennsylvania Hospital, to the Contributors at their Annual Meeting, held fifth month, 6th, 1867: Philadelphia.

A Successful Case of Cæsarean Section: Operation by Drs. H. C. D'Aquin, D. Warren Brickell, F. Borde and H. Nayon, of New Orleans, February 5, 1858. By D. Warren Brickell, M.D., Professor of Obstetrics, etc., New Orleans School of Medicine.

City Document—City of Boston. Report of the Committee on Bathing, 1867.

Report on National Military Education, with the Plan of a System for the United States, based on Existing Educational Agencies. Printed by order of the Secretary of War, 1867. From Dr. Fauntleroy.

Transactions of the Medical Society of the State of West Virginia. Instituted, April 10th, 1867.

A Manual on Extracting Teeth. By A. Robertson, D.D.S., M.D. Second Edition. Philadelphia, Lindsay & Blakiston, 1868. Through Cromie & Sherrill, Louisville, Ky.

A Theoretical and Practical Treatise on Midwifery. By P. Cazeaux. Fifth American Edition, from the Seventh French Edition. Philadelphia, Lindsay & Blakiston, 1868. From the publishers, through Cromie & Sherrill, Louisville, Ky.

The Annual Announcement of the following Medical Schools, for the Session of 1868-69, have been received. Bellevue Hospital Medical College; Jefferson University; Medical Department University of Maryland; Medical College of Virginia; Medical College of the State of South Carolina; Medical College of Mobile, Ala.; Kentucky School of Medicine; Medical Department of the University of Louisville; New Orleans School of Medicine; University of Louisiana; Miami Medical College; Rush Medical College.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. VI. SEPTEMBER, 1868. No. 3.

ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—INVESTIGATIONS UPON THE CHANGES OF THE BLOOD IN HOSPITAL (MOIST) GANGRENE. BY JOSEPH JONES, M.D., Professor of Physiology and Pathology in the Medical Department of the University of Nashville.

In this disease it would be manifestly improper to abstract blood, by venesection, simply for analysis, when the lancet wound would be liable to be attacked by gangrenous inflammation and the life of the patient might be sacrificed. This danger was especially to be dreaded in the crowded Confederate hospitals, scantily supplied with lint, rags, utensils and instruments. My examinations, therefore, were necessarily limited to the blood collected during hæmorrhages and amputations.

As the period and mode of occurrence of hæmorrhages were necessarily uncertain, I was dependent, in a great measure, upon the assistance of the medical officers and nurses for the careful collection and preservation of the blood. I furnished a number of the medical officers, at various times, in several of the Confederate hospitals in

which my investigations were conducted, with porcelain capsules, suitable for the reception of from two hundred to two thousand grains of blood.

The first and most important subject of investigation, in the relations of the changes of the blood to this disease, which we endeavored to illustrate, was the character and quality of the fibrin.

We proceed at once to present such cases as we conceived were suitable for the investigation:

Cases illustrating the Changes of Blood in Hospital Gangrene.

CASE 1. Arnold N——, private C. S. A., Co. E, 57th regiment Alabama volunteers, age 37; native of Washington county, Georgia; black hair and eyes; weight, in health, 156 pounds; now much reduced; very dark, sallow, unhealthy complexion.

Wounded, July 20th, 1864, at battle on Peach-tree creek, near Atlanta, Ga.; was carried from the field of battle to Loring's division hospital in Atlanta; minnie ball struck the fleshy part of the fore-arm, about its middle; no bones were injured and, although there was some hæmorrhage, the wound was considered by the attendant surgeon as slight; remained in Atlanta one day and was then transferred to the City Hall hospital in Macon; had been in the City Hall hospital for one month and the wound was healing rapidly; the point of entrance was healed, but the point of exit was still opened and suppurating. At this time, the wound took on gangrenous inflammation; it became swollen and was surrounded by a red, livid areola and "burned most painfully." The gangrene, therefore, appeared about the 20th of August; he was transferred to the Empire hospital, in Vineville, about the middle of September. At this time, the muscles of the arm and fore-arm, in the region of the elbow joint, were extensively denuded and the gangrene was spreading. Under the local application of nitric acid and the internal use of quinine and tincture of the sesquichloride of iron, the rapidity of the spread of the gangrene appeared to be somewhat diminished, but the disease was never entirely arrested.

October 1st. Sallow, dark, unhealthy complexion. The gangrene has made fearful ravages, denuding the muscles

of the fore-arm and arm, exposing the condyles of the humerus and the bones and tendons of the joint of the right arm. The muscles exposed, present smooth, red and purplish and greenish colors in different portions and the raw surface is without any suppuration, and the gangrene is spreading chiefly along the inferior edges of the wound and has penetrated the joint. The odor is insupportable. Patient nervous and restless; bowels greatly disturbed, running off continually; had several most offensive and fetid evacuations, which diffused a most overpowering and disgusting, gangrenous odor, whilst I was executing a sketch of the wound; eye of patient expressive of great dejection and nervousness; the well arm and hand tremble upon the slightest exertion; has scarcely strength to lift a cup of water to his mouth, the hand is so tremulous that it cannot retain the cup to the lips; prostration of nervous power complete; patient talks to himself, and although, when aroused and directly interrogated, gives a coherent answer, still his intellect is very sluggish and his answers are slow and hesitating; in fact, his condition, when the attention is not directly held, might be justly described as that of low, muttering delirium. One of the most striking proofs of the aberration of nervous and intellectual action is, that the patient appears to be wholly insensible to his most distressing condition; does not notice the horrible stench from his rotten arm, nor from his fetid evacuations, and, in reply to inquiries after his health, states that he is much better and will be soon well. When, however, his arm is moved, his face is greatly contorted, he groans out and weeps like a child. Tongue dry and of a dark purple and blue color; no appetite, refuses food, or, if he attempts to eat, takes a mouthful or two and then says he is satisfied; skin dry and rather harsh to the feeling. 2 o'clock P.M., temperature of hand 102°.2 F.; of axilla 102°.6 F.; pulse 100, very feeble, a mere thread; respiration 21. Treatment consists of tincture sesquichloride of iron *m*.xv and sulphate of quinine grs. iij, three times a day; astringent pills of tannin and opium every three hours, designed to control the bowels; turpentine emulsion, tablespoonful every four hours, and nutritious diet.

October 2d, 9 o'clock A.M. Speech slow and intellect sluggish; left hand trembles continuously; tongue trembles when protruded and the muscles of the mouth trem-

ble, as well as the ball of the eye; when speaking, voice tremulous, hesitating and feeble; still unconscious of his condition and says that he is better; the muscles present the same glazed appearance and red purple and green and bluish colors; the odor of the wound is intolerable; gangrene continues to spread and is destroying the capsular ligament of the elbow joint; no pus is secreted by the denuded surface; nothing but a fetid, sanious, greenish, gangrenous, disorganized matter flows in small quantities from the wound; tongue presents the same dry, dark, purple color; no appetite whatever; bowels still running off, discharge of a yellow color, with abundant evidence of bile; stools emit a most disagreeable smell, similar to that of gangrenous matter, with the addition of a strong human fæcal smell; some hæmorrhage from the wound this morning; temperature of hand 99° F.; of axilla 101.°3 F.; pulse 100, very feeble; respiration 18. As the day advanced, the pulse became more rapid and reached 120 at 2 P.M.; the respiration also increased in frequency and the temperature of the body also rose several degrees.

Examination of Urine.—Amount of urine collected during twenty-four hours, (October 1st, 1 o'clock P.M., to October 2, 1 P.M.,) grains 5,581. This does not represent the entire amount excreted, as a considerable amount was lost during the incessant action of the bowels. Sp. gr. 1,013; deep orange red color. At the end of four days, the urine gave a strong acid reaction, although the weather was hot, and, at the end of this time, a a white scum floated upon the surface, which was found, under the microscope, to consist of numerous vegetable cells, resembling the torula of diabetic urine, and the body of the fluid was turbid from the presence of thousands of these vegetable cells. A few casts of the tubuli uriniferi were also observed. When first collected, the urine was perfectly clear. Upon analysis, the whole amount of urine collected yielded: urea, grains, 177.87; uric acid, 2.45; free acid, 10.78; phosphoric acid, 16.60; sulphuric acid, 5.16; chloride of sodium, 5.39.

October 3d. No improvement; at 9 o'clock A.M., the pulse was very feeble and rapid, could scarcely be felt and could not be counted with accuracy; surface of hands very cool; patient very feeble and restless. As the day advanced, the temperature gradually rose and the extremities became warm, and at 12 M. the temperature of

the hand was 100°.4 F. and of the axilla 102°.2 F. Pulse 124, very feeble and could scarcely be counted, but fuller than at 9 A.M.; respiration 24; patient says that towards morning he had felt completely chilled; tongue inclined to be dry, slightly furred at the sides, but of a deep purplish and blue and leaden hue, in the centre and around the edges; this color is very striking; bowels very loose, operations exceedingly fetid; still no suppuration from wound; gangrene progressing; patient very feeble, nervous, restless and stupid; appears to be somewhat deaf.

Six o'clock P.M. Pulse 120, very feeble; respiration 28; temperature of hand 100°.8 F.; temperature of axilla 102°.6 F.; tongue of a bluish, dark, purple color and very dry; patient continues in the same miserable state; he is, however, wholly unconscious of his true condition, and, when aroused from his dull, stupid state, says that he feels somewhat better.

October 4th. Hæmorrhage from the brachial artery, near where it divides into the ulnar and radial arteries, took place this morning at sunrise and the patient died in twenty minutes. Although not more than one pint of blood was lost, the patient was so feeble that death was the result.

Examination of Blood.—The blood was preserved for examination and analysis. The blood presented a dark grumous appearance and the surface changed very slowly to the arterial hue when exposed to the action of the atmosphere, and the scarlet or rather the purplish color did not penetrate for any distance into the coagulum. In coagulating, the clots did not inclose all the colored blood-corpuscles and the serum presented a turbid red color. Many of the colored corpuscles settled to the bottom of the serum. No buffy coat was formed and the clot resembled that of a case of malarial fever, more nearly than that of the blood in the phlegmasiæ.

During the hæmorrhage 770 grains of blood were carefully received into a porcelain capsule, and from this, I separated and determined the fibrin with great care and found it to amount to three and one-tenth (3.1) grains. Fibrin, in 1,000 parts of blood, 4.02. The structure of the clot was less firm than in health or in inflammatory diseases of a similar character.

The arm was carefully examined after death and the parts found to be firmly contracted. In attempting to straighten the arm, the rotten muscles and tendons were

ruptured. Gangrene had penetrated the joint, which contained fetid, sanious, gangrenous, fluid matter.

Commentary.—The question of amputation was one of most serious importance in this case. The arm should have been amputated immediately upon the opening of the joint. This was the only chance for the salvation of this patient. In the preceding case, it was thought advisable by the attendant surgeon to delay the operation until the constitutional symptoms were improved and there were some evidences of the arrest of the progress of the gangrene. In such cases, when any large joint is extensively denuded, exposed and opened, amputation under under almost any circumstances appears to be demanded, even though from the extent, to which the general system has been involved, the disease will certainly return in the stump; for we thus remove the large, diseased, painful source of infection, substituting a much smaller wound, and the danger of hæmorrhage is, for a time at least, lessened. The proper course of treatment, in such cases, is to amputate as soon as the joint is exposed and opened and there is risk of hæmorrhage, and then to place the patient upon large doses of oil of turpentine (*m.*xx to f℥i, in form of emulsion, every three or four hours) and of quinine and of tincture sesquichloride of iron (*m.*x to *m.*xxx, every three hours) and alcoholic stimulants (whisky or brandy f℥ss to f℥i, every two or three hours) and upon the most concentrated animal food and digestible vegetables, and the stump should be kept scrupulously clean and surrounded with cloths saturated with a solution of chlorinated soda and with tincture of camphor. And we now know that an ointment compound of one part of *carbolic acid*, mixed with eight parts of simple cerate, is a most valuable stimulant and disinfectant to unhealthy and gangrenous wounds.

In the case under consideration, the action of the gan-

grenous poison upon the general system, was manifested by the feeble, rapid action of the heart; the great changes of temperature; the depressed, enfeebled, nervous and muscular forces; the trembling hands, and the low, muttering delirium, and the trembling eye-balls, and quivering features, and the insensibility of the organs of sense; the derangement of digestion and the fetid diarrhœa.

The dusky, sallow hue of the complexion and the livid blue color of the tongue were manifestly due to derangement induced by the gangrenous poison in the constitution of the blood and in the capillary circulation and in the processes of nutrition, secretion and excretion. The blood appeared to have lost in a great measure its power of absorbing oxygen. And were the process of analysis sufficiently exact and comprehensive, it might have been possible to have detected the gangrenous poison or the product of its action in the blood. The mucous membrane of the intestinal canal appeared to have eliminated considerable quantities of the offending matter from the blood.

The *fibrin* was slightly increased above the standard of health, being 4.02 parts in one thousand parts of blood, whilst, in healthy blood, the fibrin may vary from 2 to 3.5 parts in the thousand. It was below the standard observed in the phlegmasiæ generally. Thus, according to Andral and Gavarret, the mean of 58 analyses of the blood of pneumonia, gave 7.3 parts of fibrin, with a minimum of 4 and a maximum of 10.5; in pleuritis, mean of five analyses, 6.1; in angina tonsillaris, mean of six analyses, 5.55; and, according to Becquerel and Rodier, the standard for the phlegmasiæ generally, as determined by numerous observations, is 5.8.

In this case, the fibrin was increased above the standard usual in idiopathic fevers; thus, in nine cases of malarial fever, I found the fibrin to range from 0.877 to

2.938, with a mean, in the thousand parts of blood, of 2.018. In marsh cachexy, induced by the malarial poison, Becquerel and Rodier found, in five cases, the fibrin to range from 2.36 to 4.27, with a mean of 3.39. Andral and Gavarret, in 41 analyses of the blood in typhoid fever, give the minimum of fibrin as 0.9, the maximum 4.2 and the mean 2.6. In typhus fever, according to M. H. Guénaud de Mussy and M. Rodier, maximum 3.9, mean 2.4, minimum 1.2.

The fibrin was increased above the standard for small-pox, as determined by Andral and Gavarret, (mean of blood, of five cases of small-pox, 2.4, maximum 4.4, minimum 1.1.) It was less than that of scarlatina, according to the same observers, (mean of four cases 4.35, maximum 6.8, minimum 3.1.) It was somewhat greater than that of measles—mean of seven cases of measles (Andral and Gavarret) 2.7, minimum 2.4, maximum 3.4.

It is also important to note that this constituent of the blood was in larger amounts than in acute or chronic scurvy. Thus, according to Becquerel and Rodier, the fibrin in 1,000 parts of the blood of a man, aged 48 years, sick with scurvy 42 days, was 2.5; in a man aged 21 years, sick 30 days, 2.2; in a man aged 32, sick 455 days, 1.85; in a man aged 23, sick 552 days, 1.32.

As far as my observations have extended, there is no necessary connection between hospital gangrene and scurvy. The two diseases may exist together and hospital gangrene appears to commit most frightful ravages in scorbutic patients, but they are not related to each other as *cause and effect*.

This observation is still farther sustained by the facts that the remedies best adapted to the cure of scurvy exert little or no effort upon the progress of hospital gangrene, and I have seen hundreds of cases arising in men, in whom no sign of scurvy was present. When

these two diseases exist in the same individual, it is undoubtedly true that it is difficult to eradicate and cure the hospital gangrene until the scurvy has been removed by a proper course of treatment and diet, but this fact does not at all establish any identity or even relationship between the two diseases.

It is also worthy of consideration that the fibrin was increased to a much less extent than is usual in erysipelas. Thus, Popp found this constituent to exist in the blood of a man, suffering from erysipelas, in as large a proportion as 6.6; and Andral and Gavarret, in eight analyses of the blood in this disease, determined the mean to be 5.6, minimum 3.6, maximum 7.3. Some have supposed that hospital gangrene was intimately related to erysipelas. This fact, however, together with the absence of pus in the former and the rapid and almost unavoidably and abundant formation of this product of the inflammatory process in the latter, demonstrates that the two diseases are distinct. Finally, the results of the examination of the blood in this case sustain the view, that the essential conditions of inflammation are present in hospital gangrene.

CASE II. J. M. B——, private, Co. A, 9th Mississippi regiment, age 28; occupation, before entering the Confederate service, farming; native of Mississippi; wounded at Jonesboro, Georgia, September 2d, 1864; sent from the field of battle to the Floyd House hospital in Macon, and was transferred from thence to the Empire hospital, Vineville, on the 27th of September; minnie ball passed through the muscles of the neck and shoulder, above and about parallel with the scapula. Gangrene is said to have appeared in this wound about the 20th of September; the application of nitric acid, accompanied with the internal administration of quinine and tincture of chloride of iron, appeared to arrest the gangrene.

When I examined this case, on the 30th of September, the wound on the left shoulder and side of the neck was six inches in length by about three inches in breadth, ex-

tending from the median line of the neck to the acromio-clavicular articulation. The muscles of the neck were extensively denuded and the clavicle was exposed throughout a considerable portion of its anterior surface. In the act of swallowing, the play of the muscles could be most distinctly seen and studied. The gangrene appeared to be arrested and removed and the surface of the wound presented a bright red appearance, and in some parts granulations were forming and some pus was secreted. The patient was able to sit up and was cheerful, with a good complexion, bright eye, excellent appetite, regular bowels and little or no constitutional disturbance. The attendant physician affirmed that "the gangrene was all out and the wound was healing rapidly."

October 1st. In the evening the patient was seized with a chill, followed by fever.

October 2d. About 6 o'clock in the morning, hæmorrhage took place from the wound in the neck. The hæmorrhage was very slow, as if issuing from a vein, and the amount of blood lost was not more than eight fluid ounces. The hæmorrhage appeared to be almost immediately arrested upon the application of a strong solution of per-sulphate of iron to the wound. The patient, however, who was sitting up at the time of the occurrence of the hæmorrhage, was immediately seized with great difficulty of breathing, loss of muscular power, irregular thumping action of the heart and total cessation of the pulse, and he lay with eyes fixed, gasping for breath, unable to articulate, with cold, purple hands and lips, as if in articulo mortis, and finally died in the afternoon, about eight hours after the hæmorrhage.

Examination of Blood.—The coagulum was firm and changed to a bright red color, with very nearly the same rapidity as in healthy blood. Sixteen hundred and eight grains were carefully collected, which were employed for the determination of the fibrin. Upon careful analysis, this quantity of blood yielded 9.7 grains of fibrin. Fibrin, in 1,000 parts of blood, 6.03.

Autopsy—Twelve hours after death. The wound was first carefully explored. The external jugular vein had been completely destroyed by the gangrene.

Notwithstanding the healthy appearance of those portions of the wound which were exposed to the naked eye during health, it was found that gangrene still existed around the cellular tissue surrounding the internal jugu-

lar vein, and that it had destroyed the anterior coats of this blood-vessel, for the space of about the fourth of an inch in diameter. A firm coagulum of laminated fibrinous matter plugged up the vein, almost completely beneath the point of erosion.

The jugular vein, both above and below the fibrinous laminated concretion, was distended with air. The fibrinous formation did not appear to fill the vein sufficiently to prevent either the access of air or the escape of blood. I carefully dissected out the carotid artery and traced its trunk and branches, the descending into the arteria innominata and aorta, and the ascending trunk into the carotid foramen and into the muscles of the face. The carotid artery, therefore, was carefully examined far into the sound parts, both above and below the wound, but, throughout, *its coats were found to be sound and healthy.*

The gangrene had not invaded this vessel.

The clot in the internal jugular vein, formed at the eroded and gangrenous parts, did not appear to have been formed by the action of the per-sulphate of iron, but appeared to have been the result of the gangrenous inflammation, for the concretion was almost entirely free of colored blood-corpuscles, was firm and laminated and elastic in its texture and was firmly attached to the walls of the vein. This was evidently the process by which veins are often obliterated by hospital gangrene, with little or no hæmorrhage.

The right side of the heart was greatly distended. When the scalpel was plunged into the auricle, it collapsed, just as a gut filled with air collapses when punctured, only more rapidly and completely. With this collapse, there was an audible puff of air. The right ventricle was as much distended as the auricle and both contained much frothy blood, as if the blood and air had been violently churned together.

The lungs were both healthy and collapsed, as is usual in healthy lungs. I examined the apex of the lett lung, which came quite up to the wound, but discovered no appearance whatever of gangrene or of inflammation. The costo-pleural cavity on the left side contained about f℥v of bloody, serous fluid.

Abdomen.—Liver a little darker upon the anterior surface than usual; inferior surface of a slate color. When incisions were made through the slate colored portions, the structures presented a bronze color for a few lines beneath the surface.

Spleen enlarged to three times its normal size and somewhat softened. This man had a chill fourteen hours before death.

Alimentary canal (stomach, duodenum jejunum, ileum, colon and rectum) healthy throughout entire extent.

Commentary.—Death was caused in this case evidently from the entrance of air into the internal jugular vein, through the erosion caused by the gangrene.

Nature had (if we may use the expression) made great efforts to repair, by a fibrinous clot, the ravages of the gangrene, but had not been entirely successful.

The fibrin, although the gangrene was rapidly disappearing, was above the normal standard.

It is worthy of notice, that the fibrin was more abundant in this case, in which there was little or no constitutional disturbance, than in the preceding case, when the blood had been evidently altered and poisoned by the virus and its products.

CASE III. William M——, private, Co. H, 3d Tennessee regiment, age 25; hight five feet six inches; weight, in health, about 153 pounds; light complexion, red hair, blue eyes; entered Confederate service May, 1861; has always enjoyed good health, both in and out of the army; was wounded in the left hand at Ringgold, Miss., 12th of May, 1862; this wound healed readily; received his present wound on the 16th of August, 1864, at Atlanta, Georgia; the minnie ball passed through the middle of the right fore-arm; the ulna was shattered and the fractured fragments were resected in the field hospital. The day after the resection of this wound, the patient was sent from Atlanta to the Blind Asylum hospital, where he remained ten days, and during this time gangrene appeared in the wound; transferred to Empire hospital on the 29th of August.

September 30th. Patient pale, anæmic, with hectic flush, little or no appetite; nervous and excitable; pulse feeble and accelerated; wound six inches in length and two inches in width. The local use of nitric acid, together with the internal administration of tincture sesquichloride of iron and sulphate of quinia, have been attended with marked improvement in the wound, por-

tions of which look healthy, with florid granulations, which are now secreting pus. The gangrene, however, is still present in the deeper portions of the wound, and especially along the track of the large blood-vessels. Extensive sloughing is going on around the elbow joint and upon that portion of the fore-arm resting upon the pillow and subjected to pressure, and sinuses are forming in various places and discharging fetid pus, and it is evident that there are dead portions of bone still in the wound.

Considerable hæmorrhage took place from the wound this day.

Examination of Blood.—The blood presented a dark color, which was slowly changed to the color of arterial blood by the action of the atmosphere. The clot was soft and large. Serum clear. No buffy coat was formed.

One thousand grains of blood were carefully received during the hæmorrhage into a porcelain capsule. This yielded two and one-tenth grains of fibrin.

Fibrin, in 1,000 parts of blood, 2.1.

October 6th. The hæmorrhage was arrested by applying the muriated tincture of iron (tinctura ferri sesquichlorid) directly to the bleeding surface and applying compresses, saturated with this strong styptic. Up to the present time, the hæmorrhage has not returned and the wound presents rather a better appearance, the granulations are somewhat more numerous. The discharge of their offensive pus is, however, very great, and the sloughing is extending amongst the tissues subjected to pressure. The general system is seriously involved; hectic fever, with great nervous depression and restlessness.

October 9th. The arm was amputated near the middle. The structures were found to be extensively disorganized and the bones necrosed.

October 25th. The flaps have not united and the wound of the stump looks pale and flabby and swollen, and discharges a thin, aqueous and fetid sanies. Flaps swollen and everted. Bone prominent, with marrow protruding. The end of the humerus, as well as its protruding marrow, is of a black color.

Several gangrenous limbs were amputated in the Empire hospital about the same time and they all presented very much the same appearance; sallow, anæmic complexions, with pale, flabby, swollen, ununited flaps, protruding bones and fetid, ichorous discharges.

October 29th. No improvement of the stump; wound pale, flabby, swollen, with the offensive discharge; bone protruded beyond the pale, unhealthy, grayish tissues; marrow of bone prominent and black; flaps swollen, with everted edges; purplish areola around the edges of the wound and extending up, encircling the arm, which is much swollen up to its junction with the trunk; bright, hectic flush upon the cheeks; patient has a hot fever; pulse 124, very feeble and flickering; skin hot and dry and harsh to the feeling; no appetite; bowels loose. The patient appears drowsy and stupid and is evidently not in his right mind. Mutters to himself and answers incoherently and resembles a man under the influence of a strong narcotic; he has, however, taken nothing of the kind. When aroused, the face expresses great anxiety and even horror, and the patient cries like a child when the stump is touched.

Large bed sores are forming on the back and hospital gangrene has commenced its ravages and is rapidly denuding the muscles. There is a very bad gangrenous bed sore over the right scapula, on the same side with the amputated arm. Although the orifice in the skin of this bed sore is not more than two inches in diameter, still the tissues are extensively destroyed beneath the apparently sound skin. Considerable portions of the dead tissues have been removed by the forceps. When a good light is thrown upon the orifice, we can look for a considerable distance within and under the edges of the orifice, and see the gray, greenish and bluish gangrenous tissues.

October 31st. Pulse 126, very feeble; tongue red, cracked and coated with sticky, clammy saliva and flakes of whitish fur; bright, hectic flush upon cheeks; skin hot and dry; patient dull and stupid and continues in the same low, muttering delirium; wound presents no improvement; gangrene continuing its ravages, both in the stump and in the bed sores.

November 1st. Continues to grow worse; had a chill, followed by fever; eyes and complexion jaundiced.

During this day and night had several chills and the complexion became still more deeply jaundiced, as in pyæmia.

Early in the morning of the following day (November 2d) hæmorrhage took place from the arm and the patient died.

Commentary.—In this case, the profuse discharge of unhealthy sanious pus and ichorous, gangrenous matter and the grave constitutional disturbances were attended with a decrease of fibrin below the standard of health.

CASE IV. James H——, private, Co. K, 2d Mississippi regiment, Jackson's division; native of Scott county, Miss.; age 16; hight five feet seven inches; light brown hair, bluish gray eyes, fair, freckled complexion; wild, boyish expression of countenance; has been in Confederate service since the 16th of April, 1864; wounded on Flint river, near Lovejoy's station, 1st of August, 1864. This young soldier was returning for ammunition, when a ball severed the tendo-achillis of the right leg and shattered the lower portion of the fibula and passed out upon the anterior part of the ankle. Was transferred from the field of battle to Macon and entered the Stout hospital. After remaining there four or five days, gangrene made its appearance and the patient was transferred to the Empire hospital at Vineville. At this time, was suffering from both gangrene and erysipelas. A portion of the fibula exfoliated and the outer side of the right foot became gangrenous and the destruction of tissue around the ankle, instep and side of the foot was extensive. The usual local and constitutional treatment appeared to arrest the spread of the gangrene to a considerable degree, and healthy granulations sprang up in many portions of the wound and pus was secreted in large quantities. It was evident, however, that much dead bone remained and that the great swelling of the leg, together with the profuse discharge of an unhealthy pus and the formation of numerous sinuses, were due to necrosed bone, and that there was no chance for recovery but in amputation.

October 29th. Leg greatly swollen and discharging large quantities of most offensive pus. The constitutional symptoms are pretty good; the appetite is fair and the spirits excellent. All parts of the wound, which can be examined by the naked eye, present a bright florid appearance, with luxuriant granulations. The pus discharged from the deeper portions of the wound resembles, in its horribly fetid odor, that which is often discharged in and around necrosed bones and mingled with the products of gangrenous tissues.

Amputation at the lower third of the thigh was performed upon the evening of this day.

Examination of Blood.—Blood changed slowly to the arterial hue upon exposure to the atmosphere. Clot firm and well formed. No buffy coat. Serum clear. During the operation one thousand one hundred and thirty-seven grains of blood were carefully received into a porcelain capsule. Upon analysis, the fibrin in this quantity of blood amounted to three and thirty-six hundredth grains.

Fibrin, in 1,000 parts of blood, 3.04.

November 5th. After the operation the stump swelled greatly and fever set in. The leg was dissected after amputation and the bones in the region of the ankle joint, and especially the fractured fibula, were extensively necrosed and portions of gangrenous tissue were found in the lower portion of the leg and the pus had burrowed amongst the muscles extensively. At the present time (November 5th) pulse 120; skin hot and dry; hectic flush on cheek; pale, anæmic countenance; patient very nervous; cries like a child, when even the proposition to look at his thigh is made; stump much swollen; it is at least three times the size of the other sound thigh, which is greatly emaciated. Edges of flaps swollen and everted and widely separated and bone protruding more than one inch beyond the swollen tissues. The marrow of the bone protrudes and is of a black color. But little pus discharges from the wound, but, in its stead, a thin unhealthy sanies.

November 9th. Some improvement in the stump; swelling subsiding and a little pus secreted.

Commentary.—The fibrin in this case was neither increased nor diminished; that is, it was within the limits of health as far as its quantity was concerned. In so extensive an inflammation of the structures of the leg, as the patient was laboring under, we would naturally look for an increase of the fibrinous element of the blood. We are justified, by the whole history of this case, in believing that there was some cause or combination of causes which hindered the increase of fibrin, usual in such cases of inflammation.

The profuse discharge from the affected limb, as well as the absorption of the products of the disorganized tissues, may have had much to do with restraining the increase of the fibrinous element of the blood.

CASE V. John F. K——, private, Co. A, 26th Alabama regiment, Canty's brigade, Walthall's division; native of Alabama; age 25; hight five feet ten inches; weight, in health, 160 pounds; brown hair, brown eyes; wounded on the 28th of July, 1864, at Atlanta; the musket ball passed through the right foot, from the middle toe to the heel. A number of fragments of bone were taken out by the field surgeon. Was sent from Atlanta direct to the Stout hospital in Macon and remained there three weeks before gangrene attacked the wound. The patient says that he had a severe attack of fever before the gangrene appeared and the fever continued three weeks, during which time there was much delirium. Gangrene made extensive ravages amongst the tendons and bones of the foot and penetrated the ankle joint.

Transferred to the Empire (gangrene) hospital 21st of August. The external portions of the wound improved under treatment, but the carious bones excited a continued fetid discharge, and, so continuous was the loss of tissue and exhaustion of strength, that amputation was resorted to as the only means of preserving life.

The leg was amputated just below the knee joint on the 18th of October.

The bones were necrosed in various places and the gangrene was still present in the deep-seated tissues.

Examination of the Blood.—Blood coagulated firmly. No buffy coat. Serum clear. The clot changed slowly to the arterial hue upon exposure to the atmosphere, and the color of the surface was darker and more purplish than in health.

Six hundred and twenty grains of blood were carefully preserved for analysis. The fibrin in this great quantity of blood amounted to two grains and fifty-five hundredths.

Fibrin, in 1,000 parts of blood, 4.11.

October 21st. The wound looks pale and the edges are swollen. The stump discharges pus of a disagreeable odor. Patient pale, anæmic; bowels running off; had four actions during the past twenty-four hours; nervous system depressed and in an irritable state.

October 25th. Appears to be better; has but little fever. The wound discharges pus. Little or no union has taken place between the surfaces of the flaps. The edges of the flaps look pale and swollen. Complexion of patient pale and anæmic. Spirits better and appetite improved.

October 29th, 12 M. At this time the patient is vomiting; the vomiting appeared to be due to some casual derangement of digestion and was very different from that vomiting of green, bilious matter which is so fatal a sign in those cases of ill-conditioned and gangrenous wounds. Appetite has been quite good. Wound looks pale and discharges a thin pus. There appears to be some union at the lower and upper portions of the flaps. Pulse 94; skin cool; tongue clean; complains of a small pimple on the neck of his penis, which gives much pain, especially during micturition. Several small bed sores have formed upon his back.

November 5th. Doing well; wound healing; discharge healthy in appearance; appetite good; spirits excellent; complexion clear, and eye clear and bright, with cheerful expression of conntenance.

November 10th. Continues to improve.

Commentary.—The fibrin in this case was increased somewhat above the standard of health, but was below that of the phlegmasiæ.

We will proceed in the next place to examine the collective results of these observations upon the changes of the blood in hospital gangrene.

The determination of the variations of the fibrin appeared to be of the first importance, because of the relations which the quantitative and qualitative changes of this constituent of the blood bears to the phenomena of the two great classes of disease—the phlegmasiæ and the pyrexiæ.

The true theory of hospital gangrene, as well as of all other diseases, must be based, not merely upon the outward manifestation or symptoms, but also upon the more intricate and complicated changes in the constitution and qualitative and quantitative relations of the individual constituents of the blood and tissues and of the secretions and excretions. However imperfect the present labors may be, we feel, however, that they are at least in the right direction, and this method of investigating dis-

eases, when perfected and applied to those subjects which are capable of successful investigation, will ultimately lead to the discovery of those facts upon which the true theory and classification of diseases should rest.

We have drawn up the following table of the proportion of fibrin, in various diseases, that we may able, as far as this constituent of the blood is concerned, to determine whether hospital gangrene should be classed with phlegmasiæ or with the pyrexiæ:

Table of the Fibrin in 1,000 *parts of Healthy and Diseased Blood.*

OBSERVERS.	DISEASES.	REMARKS.	Fibrin in 1,000 parts of Blood.
Andral and Gavarret...	Standard of health	In healthy blood the fibrin may vary from	2.0 to 2.5
Becquerel and Rodier..	do do		
Joseph Jones.....	Hospital Gangrene.....	Mean of 5 cases... ..	3.86
do do	do do	Maximum.....	6.03
do do	do do	Minimum..... ..	2.10
do do	do do	Case 1.....	4.02
do do	do do	Case 2.....	6.03
do do	do do	Case 3.....	2.10
do do	do do	Case 4.....	3.04
do do	do do	Case 5.....	4.11
Becquerel and Rodier..	Phlegmasiæ gen'rally	Mean of numerous observations	5.80
do do ..	Pneumonia.....	Mean of 1st bleed'g	7.40
do do ..	do	Mean of 2d do	6.80
Andral and Gavarret...	do	Mean of 58 analyses	7.90
do do ...	do	Maximum do	10.50
do do ...	do	Minimum do	4.00
do do ...	Pleuritis.	Mean.....	4.65
do do ...	do	Maximum	5.90
do do ...	do	Minimum.....	3.80
Becquerel and Rodier..	do	Mean of 5 cases.....	6.10
do do ..	Acute bronchitis.....	do 4 do	4 80
Andrul and Gavarret...	do do	Maximum 6 cases..	9.30
do do ...	do do	Mean of do ..	5.70
do do ...	Angina tonsillaris.....	Mean of 6 cases.....	5.55
do do ...	do do	Maximum do	7.20
do do ...	do do	Minimum do	3.80
do do ...	Acute rheumatism.....	Mean of 43 cases....	6.70
do do ...	do do	Maximum do	10.29
do do ...	do do	Minimum do	2.80
do do ...	Chronic rheumatism..	Mean of 10 cases....	3.80
Becquerel and Rodier..	Articular rh'umatism	Mean	5.80

Table of the Fibrin—Continued.

Becquerel and Rodier..	Puerperal fever.....	Mean 4 cases.....	6.76
Heller.....	Puerperal fever.....	....	5.16
Popp.....	Febr. arthritic rheum.	Female 20, 1st bld'g	11.89
do	do do do	do do 2d do	12.97
do	do do do	Male 22, 1st bleed'g	11.40
do	do do do	do 2d do	7.91
do	do do do	do 3d do	9.25
do	do do do	Female aged 20.....	13.34
do	Glanders.....	.....	6.37
do	do	.....	10 48
do	Inflam'ation of brain	.....	6.40
do	do do	.....	6.30
do	Erysipelas.....	Man aged 33 years.	6.60
Andral and Gavarret...	do	Mean of 8 analyses	5.67
do do ...	do	Maximum do	7.30
do do ...	do	Minimum do	3.60
do do ...	Phthisis.....	Mean of 21 cases....	4.40
do do ...	do	Maximum do	5.90
do do ...	do	Minimum do	2.10
Becquerel and Rodier..	do	Mean of 16 cases....	4.80
Glover	Scrofula	Mean of 8 cases.....	3.13
Heller.....	Carcinoma.	Mean of 7 cases.....	6.58
do	do	Maximum do	16.44
do	do	Minimum do	3.30
Wittstock.....	Cholera.....	1 case.....	11.00
Simon.....	do	1 case.....	11.00
Becquerel and Rodier..	do	Mean day of death	1.88
do do ..	do	do do do	6.50
do do ..	Bright's disease, acute	Mean of 15 cases....	2.99
do do ..	do do chronic	Mean of 13 cases....	4.34
do do ..	Chlorosis.....	Mean of 6 cases.....	4.20
do do ..	Anæmia.....	Mean of 10 cases...	3.72
Joseph Jones.....	Diabetes melitus.....	Mean of 10 cases...	3.72
Becquerel and Rodier..	Acute scurvy.....	Man 48, sick 42 days	2.50
do do ..	do do	Man 21, sick 30 days	2.20
do do ..	Chronic scurvy.....	Man 32, sick 455 dys	1.85
do do ..	do do	Man 23, sick 552 dys	1.32
Andral and Gavarret...	Small pox.....	Mean of 5 cases.....	2.40
do do ...	do do	Maximum do	4.40
do do ...	do do	Minimum do	1.10
do do ...	Scarlatina.....	Mean of 4 cases.....	4.35
do do ...	Measles	Mean of 7 cases.....	2.74
Joseph Jones.....	Malarial fever.....	Mean 9 cases.....	2 01
do do	do do	Maximum do.....	2.93
do do	do do	Minimum do.....	0.87
do do	do do	Interm. fev. 12 dys	1.90
do do	do do	Interm. fever 5 wks	2.54
do do	do do	Interm. fever 6 wks	1.92
do do	do do	Remit. fever 16 dys	2 93
do do	do do	Remit. fever 10 dys	1.43
do do	do do	Remit. and typhoid fever 11 days.....	2.38
do do	do do	Remit. fever 2 wks	2.71
do do	do do	Congestive fever ..	0.87
do do	do do	Congestive fever ...	1.45
Andral and Gavarret...	Typhoid fever..... ..	Mean of 41 analyses	2.60
do do ...	do do	Maximum . do	4.20
do do ...	do do	Minimum do	0.90
M. H. Guénaud de Mussy and M. Rodier.....	Typhus fever.....	Mean of 6 cases.....	2.46
	do do	Maximum do	3.90
	do do	Minimum do	1.20

As far as the observations recorded in the preceding table extend, the fibrin of the blood is increased somewhat above the standard of health in hospital gangrene, whilst in this disease it is less than in the phlegmasiæ generally, but more abundant than in the pyrexiæ.

From the observations recorded in this table and in the preceding pages, and especially from the results of the microscopical and chemical examination of the gangrenous matter and of the pus secreted by wounds after the removal of hospital gangrene and the changes of the blood in this disease, the following conclusions may be drawn:

1. *Hospital gangrene is caused by the action of an irritant, corrosive, organic poison, generated during the decomposition of animal matter under certain conditions, and capable of exciting change and decomposition in living structures, with which it is brought into contact, after the manner of a ferment.*

2. *This poison may arise, de novo, whenever certain conditions favorable to its development exist.*

The most important of these conditions are crowding together of sick and wounded soldiers in imperfectly ventilated and filthy hospitals, in which there is an insufficient supply of utensils, bandages and lint and instruments; transportation ot large numbers of wounded soldiers in close box cars, without any cleansing of their filthy, offensive wounds; bad diet; previous exposure, and crowding of soldiers into confined spaces during sieges and in filthy camps, with defective police, and with the air contaminated with unburied fæces, induce such states of the system as are favorable to the development of hospital gangrene upon the reception of wounds.

3. *Hospital gangrene may be both local and constitutional in its origin.*

Animal matter, in a certain state of decomposition, is capable of acting upon a wounded surface and of devel-

oping gangrenous inflammation, or the system may be so depressed by the action of gases and foul air inhaled and by previous exposure and diet, that this form of inflammation may result from the depression of the forces, the derangement of nutrition and the consequent degeneration of wounded parts. If the disease arises locally, the absorption of the gangrenous matter commences as soon as it is applied to any wounded surface, and goes on continuously as long as any gangrene is present, and the decomposing matter, entering the blood, deranges its composition and the nutrition of the body and depresses the forces. In this way the constitutional derangement may be manifested before the local changes are evident to the senses, without at all standing in the relation of cause and effect.

The admission of the local and constitutional characters of hospital gangrene, at the same time, is not at all contradicted by the fact, that we may have in the same patient one gangreneous wound and another entirely free from the disease. Neither does it follow that because the absorbed matters derange the nutrition and composition of the blood and disturb, to a certain extent, the forces, therefore amputation will not arrest the disease. Whether or not, the severing of the gangrenous mass from the body will arrest the disease will depend, not upon the mere facts of the absorption of the gangrenous matter, but upon the extent to which it has deranged nutrition and depressed the forces. Thus the poison of the rattlesnake produces death in the immediate parts into which it is injected and at the same time, that portion which is absorbed, alters the blood, acts upon the heart, deranges the nutrition, disturbs the circulation and respiration and depresses the nervous and muscular systems. If the limbs poisoned and rendered gangrenous by the action of the poison of the rattlesnake, be amputated in the sound

parts, it does not follow, that because the constitution has been affected by the poison absorbed, that therefore the stump must also become gangrenous. Neither does it follow that because the gangrene was not reproduced in the stump, therefore the poison of the rattlesnake did not act constitutionally. In case of amputation for a gangrenous wound, the reäppearance of the gangrene in the stump, will depend on the amount of the matter absorbed from the local source, and the extent to which it has deranged the system, and also upon the previous condition of the solids and fluids and of the forces, before the reception of the infection.

4th. The action of the poison of hospital gangrene is attended with both local and constitutional symptoms of inflammation.

Thus, within the focus of active change and disintegration, there are alterations in the healthy structure and function of the afflicted parts, as indicated by the change of color and structure, the fetid odor and the suspension of secretion and healthy nutrition, by the altered condition of the blood, as manifested in the surrounding dark, livid areola, by passive hæmorrhages, and by the rapid decomposition of this fluid; and around the focus of active disintegration there is active determination of blood, congestion of the capillary blood-vessels, accumulation and stagnation of the colored blood-corpuscles, relative and absolute increase of fibrin, albumen and colorless corpuscles, effusion of coagulable lymph, and redness, heat, swelling and pain. In the general system there is increase of fibrin in the blood and more or less febrile disturbance, as manifested in the accelerated circulation, increased temperature and deranged muscular and nervous actions.

5th. The changes excited, both locally and constitutioually, by the gangrenous fibrin, are such that the products and

phenomena of the disease vary to a certain extent from that of ordinary inflammation.

Thus, in hospital gangrene, the lymph effused around the focus of disease, possesses the power of coagulation and development into tissue, and there appears to be all the conditions necessary for the arrest of the disease by the development of coagulable lymph, through nucleated cells, into the fibrinous and fibro-cellular and connective tissue; but the characters of the irritant poison are such that the products of inflammation, together with the blood-vessels and the blood itself, are rapidly disintegrated, the life of the blood is destroyed by the gangrenous poison, and the fluids and living organizable matter and cells, upon which the progress of inflammation depends, are poisoned. It results from this: that the liquor-sanguinis, effused within the diseased structures, does not pass into the stage of pus, as in healthy wounds and in the common furuncle and carbuncle, or even in erysipelas and the pustules of small-pox, and the exudation corpuscles are so poisoned and disorganized that they are not farther changed in either a progressive or descending series, and whenever the limiting fibrinous wall is thrown out, with its organizable cell elements, it is in like manner destroyed when it is reached by the poison. All the changes of the blood, characteristic of ordinary inflammation, may be present around the gangrenous part, as the increase of liquor-sanguinis, with increase of its albumen and fibrin, both actually and relatively to the blood-corpuscles, aggregation of the red corpuscles and increase of the colorless and lymph corpuscles, but no arrest of the disease will take place as long as the poison is capable of exciting rapid change and decomposition, after the manner of a nitrogenized ferment in the products of inflammation.

6th. The gangrenous poison, as well as the compounds

resulting from the disintegration which it induces in the organic constituents of the structures, when absorbed, act as poisons upon the muscular and nervous systems, and tend to disorganize the blood and derange the actions of the alimentary canal.

When absorbed in large quantities, these products frequently act as irritants to the intestinal canal, by which they are eliminated and patients are sometimes destroyed by the diarrhœa consequent upon this action upon the intestinal mucous membrane.

The absorption and consequent action of the gangrenous poison upon the general system is manifested by the feeble, rapid action of the heart; the marked elevations and depressions of temperature; the depressed, enfeebled nervous and muscular forces; the trembling hands; the low, muttering delirium; the trembling eye-balls and quivering features, and the insensibility of the organs of sense, and by the derangements of digestion and the fetid diarrhœa.

The derangements induced by the gangrenous poison, in the constitutents of the blood and in the capillary circulation, are manifested by the dusky, sallow, livid and leaden hue of the complexion; the livid, blue color of the tongue; the derangements of nutrition, secretion and excretion; the diminution of the power of the colored blood-corpuscle to absorb oxygen from the atmosphere, and by the partial increase of the fibrin, notwithstanding the existence of an inflammatory state.

It appears, therefore, that the fibrin is not increased in hospital gangrene to the extent usual in ordinary inflammations, on account of the absorption and action in the blood producing the disease and of the products of the decompositions which it excites in the structures and fluids of the living animal. A similar condition is observed in the action of the poison producing small-pox.

In this disease, also, as will be seen from the preceding table, notwithstanding the presence of both local and constitutional symptoms of inflammation, the fibrin is less than in uncomplicated inflammations, as in pneumonia.

ART. II.—EXTRA-UTERINE PREGNANCY. By WM. R. KING, M.D., of Louisburg, N. C.

From reading the case of "extra-uterine pregnancy," reported by Dr. M. H. Houston, of Richmond, Va., in a late number of your Journal, I am induced to give you a brief report of a similar case that came under my observation about eight years ago.

The subject was a healthy mulatto woman, about 25 years of age, and mother of three children. The first time I saw her was in the month of February, 1860, when I was called to visit her professionally from some slight attack of sickness. In the course of my investigations, I discovered she was pregnant. She informed me that she had just quickened. I judged from the size of the uterus that she was about five months advanced.

In June following I was called to attend her in labor. I found all the usual preparation for the event and the patient suffering from all the signs of labor, with pains returning regularly. In attempting to make an examination of the presentation, I could not reach the os tincæ. I made a number of other examinations in the course of her labor, but with the same result. The os could not be found in any part of the pelvic cavity. She continued to have hard labor pains for several hours, when they commenced growing weaker, and finally subsided entirely in about twenty-four hours from the time she was taken, leaving the whole abdomen extremely tender to the touch, with considerable fever. Under the use of active depletory measures and large emollient poultices, these

symptoms gradually subsided, the abdomen remaining the same size.

She had no discharge from the vagina during the symptoms of labor, nor subsequently, until the catamenial flow was reëstablished, which followed in the usual time after still-births. It is proper here to state that there was an entire absence of this discharge during pregnancy.

While suffering from the symptoms of labor, she said the movements of the fœtus were as strong as they were in any previous pregnancy, which, she also stated, had been the case from the time she quickened to that period. They were distinctly felt by the application of the hand to the abdomen.

There was a gradual shrinking of the abdominal tumor for about two years, when it was reduced to the size of the womb at five and a half months utero-gestation and lying mostly on the left side of the abdomen. Her health at this period was as good as usual.

After this period I lost sight of the case until it was recalled to my mind from reading Dr. Houston's case, as before mentioned. While on a visit to a patient in the country, a few days ago, I called to see her. I found her in good health, the tumor remaining the same size it was six years ago and occupying the left size of the abdomen. She informed me that the uterine enlargement was first discovered just above the left groin. It appeared, she stated, in the form of a tumor, or knot, as she termed it, and gradually increased in size. Quickening was first felt in that side of the pelvis.

Firm pressure on certain parts of the tumor causes pain. Much exercise in walking, also, produces considerable soreness throughout the enlargement. Her catamenial returns are normal.

I could not obtain her consent to a vaginal examina-

tion. However, I am well satisfied that the tumor is extra-uterine. The absence of all discharge during her apparent labor and the present healthy condition of her monthly returns, with the general good health of the patient, concur to prove this fact.

The tumor is quite unyielding to pressure and irregular in form—at some points quite hard.

ART. III.—THE CONTAGIOUSNESS OF DIPHTHERIA. By W. F. HUMPHREYS, M.D., Rockbridge county, Va.

As in painting, there is a point of a picture where the shade blends with the light, or in astronomy a penumbra or obscurity on the margin of the perfect shadow in an eclipse, so, when an epidemic is prevailing, the ordinary diseases often partake more or less of its general type, and even persons, who are otherwise healthy, are subject to some derangement of their bodily functions from the epidemic influence. That is, the epidemic manifests itself in every degrec of severity, from the slightest derangement to the fully developed disease.

To prove these remarks are true of diphtheria, it is necessary only to refer to the very mild cases we frequently meet with, when the patient would hardly know that he was not well if not told that he had the characteristic diphtheria deposits on his tonsils, or to that vitiated condition of the system manifested by the unhealthy character assumed by wounds, however trifling, as well as by the spontaneous appearance of isolated vessicles, especially on the hands, face or feet, which pass through the stages of vessicles and pustules, often forming irregular spreading ulcers, covered with hard, whitish, laminnated scabs. These are symptoms of diphtheria observed in persons exposed to the epidemic influence, and frequently they are all there is of it.

In bad cases of diphtheria, the eruption is not always presented, but the vitiated condition of the blood, manifested by the characteristic behavior of trifling wounds above referred to, is invariably present. Diphtheria is a blood disease. One may have the disease without the diphtheritic deposit on the mucous membrane.

Grant these propositions and diphtheria can be communicated by inoculation, for I have thus communicated it.

From a pustule on the arm of a patient suffering from a severe attack of diphtheria, I inoculated my own arm. The effect, both local and constitutional, resembled very closely that of vaccination. The scab formed was not so solid, nor did it leave a sicatrix, but a purple spot, which persisted for months.

Previous to this my health was perfect; subsequently I had what might be called the diphtheritic diathesis.

Although this may prove that diphtheria is *contagious*, according to the literal meaning of the word, it does not demonstrate that it can be communicated by that subtle matter which proceeds from a diseased person, but it makes it almost morally certain.

ART. IV.—TRICHINÆ IN THE DOMESTIC FOWL. By GEO. SYNG BRYANT, M.D., Lexington, Ky.

Some time ago, I had the stomach, duodenum and gizzard of a chicken, which was killed for the table and eaten, brought me for the purpose of examining, under the microscope, the glands of the mucous membrane. To my surprise, I discovered something like a trachina, but it was illy defined. The portion of the stomach being fresh and not entirely deprived of blood, I subjected the remainder to maceration in glycerine for about twelve days, by which time the coats were nearly translucent and could be easily inspected with the microscope.

The muscular coat of both intestine and stomach is thickly studded with entozoa coiled in cysts, in every possible attitude.

I have several specimenns of trichinæ, taken from man, now before me with which to compare them and find that these entozoa are not unlike the trichinæ in the human muscle. I have mounted several specimens of of the entozoa taken from the chicken. Here are drawings of them:

It is possible that the disease, known as "chicken cholera," is dependent upon entozoa, as the cattle plague and hog cholera are now believed to be.

I shall continue my investigations and will apprize you of such facts as I may discover.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—CASES OF FOREIGN BODY IN THE ŒSOPHAGUS, ILLUSTRATING THE USE OF THE BRISTLE-PROBANG. By LEWIS A. SAYRE, M.D., Professor of Orthopædic Surgery in the Bellevue Hospital Medical College, New York.

CASE I. Charles M'C—, aged 19, living at the St. Nicholas Hotel, between midnight and one A. M. of the morning of 29th April last, waked and found himself in the act of swallowing the plate to which wrs attached an artificial right central incisor tooth which he was in the

habit of wearing. He endeavored to seize it but the power of the muscles of deglutition was so great that he lost his hold, and the plate passed into the œsophagus. Without waiting to dress, he ran to the house of a physician in Broome street, who attempted to dislodge the obstruction by passing a sponge probang, but without effect beyond causing slight hæmorrhage. He then took an emetic, which also failed to remove the plate. About 3 A. M. he went to the New York Hospital. Dr. Wainwright, one of the house surgeons, with an assistant, examined his throat with care, both with a probang and œsophageal forceps, and not feeling any foreign body, naturally inferred that the pain in his throat was due to the repeated explorations to which he had been subjected. Dr. Wainwright informs me that he passed the forceps a number of times, but was never fully satisfied that he felt any foreign body, although the patient insisted that the tooth was in his throat, and begged that it might be cut out. On the 30th, forty-two hours after the accident, he presented himself at my office. His countenance was anxious and pale; the paleness and debility being explained by the fact that he had been unable to swallow anything since the accident. The head was thrust forward and fixed in a stiff and awkward position, the respiration had a peculiar wheezy character, the voice was husky and rasping. On either side of the neck, just behind the sterno-cleido-mastoid muscles and about an inch below the thyroid cartilage, a slight fullness could be detected; pressure upon these points produced a sense of suffocation and, placing his finger just above the sternum, he said the tooth was cutting him at that point.

I passed a whalebone probang down the œsophagus without obstruction, and also a pair of curved forceps, and could feel no foreign body. I again pressed his neck and he stated that the tooth cut him "just here," putting his finger at the point just above the sternum, before mentioned, and that the "hook" on the plate was caught "just here," putting his finger on the right side of his neck. I then asked him if he could describe the plate or make a drawing of it, when he made a rough diagram, which gave me a very good idea of the size and shape of the body in the œsophagus. It also explained the position of the plate in the throat, and I at once perceived that while the œsophagus was distended by the plate ex-

tending from side to side, the probang and forceps had readily passed through the concavity of the plate, and had been withdrawn without touching the latter.

I, therefore, determined to use the *bristle probang*. This instrument was invented, I think, by a surgeon in the East India service, but whose name I have never heard. For an emergency occurring some weeks previously, I had made one of these instruments in the following manner. I took an ordinary No. 10 elastic catheter and cut off about one inch from its lower end, I then ran through it a flexible whalebone, about three inches longer than the catheter, and tied on its end a small piece of sponge. I then took to pieces an ordinary paint brush and tied one end of the bristles around the sponge, completely surrounding the whalebone rod with them. The other end of the bristles I tied around the cut extremity of the catheter.

Fig. 1.

Fig. 2.

Fig. 1 (one fourth natural size) represents the instrument when complete. By a slight twisting, the bundle of bristles can be reduced in diameter to about the size of the catheter. By holding the catheter firmly with one hand, and with the other drawing upon the rod so as to bring the sponge toward the catheter, each of the bristles is bent into a loop and the whole bundle is converted into a disc about five inches in circumference, (Fig. 2,) large enough to completely sweep the œsophagus and to remove any foreign body lodged therein.

The sponge having been dipped in water, the instrument was extended and was readily passed the entire length of the œsophagus without obstruction; it was then distended in the manner described and slowly withdrawn, with a twirling movement, so as to sweep all parts of the tube, and fortunately brought out the plate and tooth riding on its meshes without difficulty and with scarcely any pain.

The plate had, at either extremity, a hook fitting to the teeth for its retention in the mouth, besides a number of small-

er points and ridges for the same purpose. Its dimensions were about two and a quarter inches from hook to hook, by one half inch wide. The tooth and gum, which projected above and below the plate at right angles to it, was about five-eighths of an inch in length by one-quarter in width. (Fig. 3.)

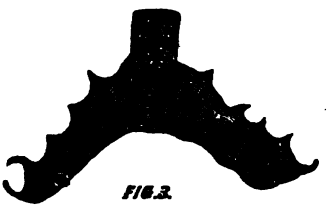


FIG. 3.

The lad had some tenderness in swallowing for a few days, which soon passed away.

CASE II. On the 2d of May I was called in great haste to see Mrs. M——, Fifth Avenue, the messenger stating that she was "choking to death from a fish-bone which she had just swallowed while eating dinner." I took with me an instrument which Messrs. Otto & Reynders, 64 Chatham street, had made for me after the pattern described in Case I, and which was more perfect than the one I had myself extemporaneously devised. When I arrived I found Dr. Ellsworth Elliot in attendance. The patient was in a great state of excitement and complained bitterly of an intense pain in the ears.

The instrument was introduced and withdrawn in the manner described in Case I and brought with it the scapula of a codfish measuring one and one-quarter inches in length and seven-eights in breadth at the wide end. (Fig. 4.) A slight hæmorrhage followed, which

FIG. 4.

soon ceased on the administration of pieces of ice.

After a few days, during which the diet was restricted to articles which could be swallowed without difficulty, such as raw oysters and ice cream, the lady was able to swallow as easily as usual.

CASE III. Tim. ——, coachman of Mr. Mott, Stryker's Bay, came to me one morning early in the spring, complaining of pain in the throat from a fish-bone, which he had swallowed the day before at dinner. The finger, probang and forceps failed to detect anything, and I then made the instrument which I afterward used in Case I, and by its use I succeeded in extracting a halibut bone near two inches in length and quite sharp at one end. It had so distended the osophagus as to allow the instruments previously used to pass without engaging the foreign body.

Although the instrument I have described has been many years in use, it does not seem to be as generally known to the profession as is deserves, and for this reason I have thought it advisable to publish the foregoing cases.

Upon inquiring at the New York, Bellevue and Charity hospitals, I find that none of these institutions have it in their collection of instruments.

The great advantage of this instrument over the ordinary forceps, or the penny-catching double hook, is that the elastic pressure of the looped bristles so completely distends the œsophagus that the foreign body rides out on the top of the brush, without any resistance from the muscular contractions which would otherwise take place from the irritation, which would follow the attempt to remove a rough or jagged body through a muscular tube.

The simplicity of the instrument and its ease of construction are also points of value, particularly to the country practitioner who has not the facilities of the instrument maker's shop, since any surgeon can, upon emergency, make one for himself at a moment's notice.—[*New York Medical Journal.*

ART. II.—"POSITION" IN THE TREATMENT OF CHLOROFORM POISONING. By E. L. HOLMES, M.D., Lecturer on Diseases of the Eye and Ear in Rush Medical College and Surgeon to the Chicago Charitable Eye and Ear Infirmary.

The subject of anæsthetics does not fall specially within the province of your committee on ophthalmology, and yet there are a few points which I consider of some

interest in connection with the administration of ether and chloroform in ophthalmic surgery.

I have observed a few facts, in operating upon the eye, which I deem of very great importance as bearing upon the treatment of patients presenting alarming symptoms during the inhalation of choloroform. It is not my object to discuss the comparative danger in the use of chloroform or ether, nor the circumstances upon which the danger depends. It has been my fortune to observe the administration of both agents in a very large number of cases under the care of many different and eminent surgeons. I have also administered chloroform more than 400 times myself. Till quite recently, I had never witnessed a singlecase in which there was any apparent danger to the patient.

Some time since, two male adult patients, to whom I administered chloroform, suddenly ceased breathing, the pulse at the wrist becoming at once imperceptible, the sound of the heart, however, being audible to the ear placed upon the chest. The removal of the chloroform, alternate pressure and relaxation of the chest and cold water thrown upon the face speedily aroused the action of the heart and lungs.

I may state that, in administering ether to a patient 76 years of age, the respiration suddenly ceased, although the pulse, very much reduced in force, continued. The appearance of the patient was alarming, the countenance being somewhat livid, cool, and haggard in expression, and the eyes rolled upward. It required considerable exertion to restore the patient.

Every surgeon has, not unfrequently, observed that chloroform produces considerable pallor, prostration in the action of the heart, arteries and lungs, apparently without any imminent danger. In all such cases, as well as in the two just described, the danger seems to depend entirely upon syncope. I have never witnessed a case in which there was turgidity of the vessels and redness of the face, in which there was a regular pulse and a regular, though often stertorous, respiration, causing, perhaps, a peculiar heaving motion of the head. On several occasions, as I observed this tendency to syncope, although I saw no reason for alarm, I directed, experimentally, my assistants to raise the foot of the table sufficiently high to place the patient with the head downward on an inclined plane of at least 40°. I found, invariably, that

the pulse at once became fuller and more frequent and that the color returned to the face.

Subsequently, in administering chloroform to a patient at the Chicago Caritable Eye and Ear Infirmary, the breathing and pulse, almost without warning, suddenly ceased. Although the pulse and respiration had been quite good, there still had begun to be a peculiar "cold perspiration" upon the brow, and a cold, moist condition of the hands, which I attributed to the depressing influence of fear, under which the patient was laboring. I was watching the patient most carefully, thinking in this condition he should receive no more chloroform, when he ceased to breathe. His aspect was most appalling; the face and hands were cold and wet, the features pinched, muscles of the face relaxed, lids half opened, and the cornea turned upward. The foot of the table had not been raised fifteen seconds, the tongue having at once been withdrawn, before the pulse reäppeared at the wrist and the respiration was reëstablished. Upon restoring the patient to the horizontal position, the pulse and respiration again ceased. The elevation of the foot of the table, however, again reëstablished the action of the heart and lungs.

Some time after this occurrence, precisely the same symptoms appeared during the inhalation of chloroform. The patient was a young, strong man. In this case the pulse, for a few minutes, was growing less frequent, although the breathing continued quite strong and regular, till, without further warning, the pulse and breathing suddenly ceased. The appearance of this patient was as frightful as in the case of the other just described. A similar mode of treatment restored, at once, the action of the heart, some seconds passing before the respiration was fully reëstablished.

I have had an opportunity, at the Infirmary, of demonstrating, experimentally, to students and physicians, more than thirty times, in cases where there was no apparent danger and yet where there was a tendency to pallor and weakness of the pulse, that, in the position I have described, the cheeks became instantly flushed and the pulse stronger.

In administering chloroform, I always use a napkin, folded several times, upon which the anæsthetic is poured in small quantities at a time, care being taken that a free current of air can pass to the mouth under the napkin.

The patients are always in a horizontal position. I watch, with great care, the condition of the pulse and respiration; and yet, it is sometimes somewhat difficult to distinguish the difference between the effects of fear and those of the chloroform.

Whatever may be the obscure causes of fatal results from the use of chloroform, I believe the danger, in by far the larger proportion of cases, depends upon a tendency to death by syncope. To overcome this tendency, it is necessary to stimulate the nervous centres. This may be done by causing a column of blood to press upon the vessels of the brain. It is not sufficient to remove the pillow from the head and place it under the hips. It is necessary that the whole body be placed upon a steep, inclined plane, to force as much blood as possible, by gravitation, into the brain. I believe this is of more importance than any of the methods usually described by writers on the subject. It should take precedence of the withdrawal of the tongue, artificial respiration, galvanism or stimulants. This remedy can always be applied without delay and can be followed by any others which may seem desirable.

I have dwelt upon this subject of position, because so little is said upon it, either in the best works upon anæsthetics, or in the reports of the treatment in fatal cases, as found in medical journals. We have reason to believe that very few surgeons or obstetricians have ever placed a patient in the position described in cases which threaten to terminate fatally.

I have employed large and frequent doses of bromide of potash, as recommended by Dr. Stone, both before and after the administration of ether, as also of chloroform, to prevent nausea, but have not observed any beneficial result. It is highly desirable to possess some agent to prevent nausea and vomiting, especially in the extraction of cataract, since the vomiting may cause the expulsion of the vitreous humor, and protracted nausea and consequent loss of appetite may prevent union of the corneal wound by impairing nutrition.—[*Chicago Med. Examiner.*

ART. III.—INFLUENCE OF ANÆSTHETICS ON THE BRAIN AND NERVOUS SYSTEM.

Dr. Richardson's fifth lecture was a study of the influence exerted by anæsthetics on the brain and nervous system. The obvious fact that the motion of the heart and the movements of respiration continue in action while the rest of the body is under the narcotic effect, during anæsthesia, proves that the whole nervous system is not involved, and that the involuntary and semi-voluntary muscular mechanism is also not involved, except when extreme and fatal symptoms are developed. What parts, then, are influenced by an anæsthetic? The idea was almost intuitive that the brain was the organ effected, and that the centres of consciousness are those chiefly held in abeyance. But, to prove this as true, experiment was necessary. In proof, the lecturer took a large pigeon, narcotized it deeply with chloroform, and in this state passed through its body, from the head to the foot, a rapid intermittent induction current. The bird instantly arose from the table, extended its wings, opened its eyes and seemed as if restored; the current was then stopped and the bird was shown to be as deeply asleep and as powerless as before. Another bird was put to sleep by freezing the brain and, when utterly insensible, was subjected to the electrical shock in the same way, when it flew from the table into the room, where, breaking its connection with the battery, it dropped on the floor comatose, motionless and as anæsthetized as before, in which condition it remained for many minutes. The lecturer, in these experiments, demonstrated that the anæsthetic action is localized in the cerebrum. His battery was like an outer brain, which supplied power without intelligence, and which, by the effects of its current, showed that all the muscular elements were ready for work and only awaited the order from the brain. The lecturer next discussed the question: What, during the process of anæsthesia, leads to this change in the brain? Is there a chemical action on albumen? Is there pressure on brain matter? Is there deficient oxidation of the blood? Is there contraction of blood vessels and diminished supply of blood from that cause? All these hypotheses were experimentally tested and negatived. It

was admitted that, during extreme anæsthesia, there is reduced oxidation and a singular reduction of temperature. These changes are inevitable, because the anæsthetic vapors replace oxygen during their diffusion into blood; but the diminished oxydation is not the cause of the insensibility. In proof of this, Dr. Richardson showed an animal breathing an air in which the oxygen was reduced by the addition of nitrogen from twenty-one to nine parts in the one hundred, side by side with another similar animal breathing an air in which the oxygen was reduced by the addition of vapor of bichloride of methylene only to about twenty parts in the one hundred, viz: four cubic inches in five hundred. The result was that the animal, in the extremely reduced atmosphere, was quite unaffected, while the animal, in the slightly reduced atmosphere, was in the deepest narcotism. Then a correcting experimental test was adopted and the bichloride was administered in an atmosphere containing an excess of oxygen, the oxygen being present in double its ordinary or natural proportion; the excess of oxygen exerted no perceptible obstacle to the anæsthesia.

To determine whether there was contraction of blood vessels under anæsthetics, the lecturer had recourse to transparent small trout; through their bodies, with the microscope and the inch lens, the blood vessels could be seen and the corpuscles flowing through them. These animals can be narcotized readily by making them breathe water saturated with chloride of methylene or ether. In the narcotized condition, the vessels do not contract, but under the influence of ether, in the later stages, before death occurs, dilation and regurgitation are observed. The latter is noticed also when chloride of methylene is used. With both reagents, breathing and vessel circulation cease before the heart's action. The lecturer concluded that anæsthetic vapors act directly upon nerve matter, either by preventing the development of force or by stopping conduction. The later hypothesis is supported by the fact, proved by experiment, that these vapors obstruct the conduction of heat and electricity. —[*Medical Times and Gazette.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—CLINICAL LECTURE ON LITHOTRITY. By SIR HENRY THOMPSON, at University College Hospital. Lecture VIII, from the London Lancet (original copy). Analysis by PROF. JAMES M. HOLLOWAY, M.D., Associate Editor.

When lithotrity or crushing is to be performed, see that the patient's general health is made as good as possible, by regulating digestion, cleansing bowels and improving condition of local organs.

Introduce the catheter occasionally, if urethra is not already accustomed to its use.

In crushing, prompt and rapid manipulation is important. For the retention of an instrument in the bladder for three or four minutes is, of itself, a source of discomfort.

Details of operation, numerous but simple, the object being to *get rid of the stone by the natural passage, without inflicting a wound.*

No cutting instruments being required, the danger in crushing arises (*a*) from the *stone*, (*b*) the instruments for extracting it.

The Stone.—Unless broken up into large fragments, a stone occasions no "dangerous injury" to bladder; is only a source of pain and causes chronic disease. Large angular fragments, with sharp edges, if allowed to remain, cause acute cystitis. They should be pulverized one at a time; do not attempt to accomplish this all at once or indiscriminately. The débris should not be washed away by repeated injections, but passed with natural ejections, the fragments, that are allowed to remain in bladder for a day or two, becoming water-worn and pass more readily through urethra, which is less tender than it was immediately after use of lithotrite. Diluent drinks should be given to promote flow of urine.

Instruments for crushing and extracting should be as few and simple and small as possible. It was formerly

thought necessary to inject water into the bladder before introducing the lithotrite. For this purpose a syringe and catheter were necessary. Now this procedure is omitted and, in consequence, the number of instruments is reduced *by two*. The same rule applies in the act of crushing as obtains in sounding, viz: the bladder had better be *empty* than distended with fluid. The stone can be more easily found and seized when the bladder is *nearly* or *entirely* empty, and the instrument usually employed—the *lithotrite with broad blades*—is so constructed that it connot possibly do violence to the mucous lining of the bladder.

When it is necessary to employ the lithotrite, with a male and female blade, the one fitting accurately with the other, there is some danger of nipping the mucous membrane, but this fenestrated instrument is not often needed and that only when the stone is very large.

The instruments, then, required for crushing, are two lithotrites—one fenestrated (for large stones), the other, with broad, flat blades, with well rounded edges, which render it incapable of catching the mucous membrane; this is used for crushing the smaller stones and the fragments of the large stones that have been broken up by the other instruments.

Add to these two instruments—which are all that are required in the majority of cases—the apparatus of Mr. Clover and you have everything necessary for crushing. Clover's apparatus consists of a large catheter, with a powerful india-rubber bottle attached to it. When, from absence of power to make water, the fragments cannot be washed away, the catheter is introduced and the expansion of the previously compressed bottle sucks up the fragments.

Operation of Lithotrity.—If you have a large stone, begin with the fenestrated instrument. After this, and when the stone is small, use the flat-bladed instrument.

"*There is a difference in the mode of introducing the lithotrite and catheter. You know that in passing a catheter, we, in this country, stand on the left side of the patient; in France, the surgeon stands on the right side. In passing the catheter for a recumbent patient, you hold it somewhat horizontally; draw the penis gently over and give a gentle sweep, in this way, into the bladder.*" In passing the lithotrite, the surgeon stands on the right side, and "*partly turning his back to ihe patient, he lets the lithotrite slowly and easily*

find its way until the shaft reaches nearly the vertical direction. Arrived at this point, he retains it in that position by its own weight, in order that it may slip under the pubic arch. This done, he gently depresses the handle and it slides readily into the bladder."

After the instrument reaches the bladder, the stone is searched for by gently moving the curved point in every direction, *not forgetting to turn the point downwards*, especially after the greater portion of the stone has been removed at former sittings.

The stone or one of the fragments having been found, the blades of the lithrotrite are opened and closed upon it. Then touch the button of the instrument, which changes the motion from a sliding to a screwing one.

By opening and closing the instrument in this manner, a considerable portion of the stone can be reduced to powder, in from one to two minutes. It is very important that the operation should not be prolonged to the point of causing severe pain. When a good sized stone has been seized and crushed, be careful to keep the lithotrite in the same direction and you will be more apt to find the fragments. "It reminds me of fishing for perch. When you have caught one, you may catch, perhaps, twenty or thirty more out of the same hole, if you will but stop there and not go out fishing amongst the shallows."

After an operation, the bladder should not be further disturbed, the débris from the crushing being allowed to pass away with the natural discharges of urine.

One of the objections to lithotrity is, that one is not always certain that the last *fragment* has been passed. After a careful search with a broad-bladed instrument, Sir Henry advises thus: "Wait for a week and see whether the patient is better, and, if there is any doubt about it, make him take some severe exercise. I do not know anything here in London better than an omnibus ride. If a fragment remains, the patient will, to a certainty, be worse for his drive and, perhaps, there may be some bleeding.

The apparatus of Mr. Clover (already described) may be used to remove the last fragment, or, in fact, any one of them that may resist the action of the urine in rounding off the sharp edges.

A troublesome complication of lithotrity is the *impaction* of the fragment in the urethra. Is is not often

necessary to open that canal for its removal, the ordinary forceps being sufficient. If care is taken to pulverize the fragments in the bladder, the danger of impaction will be greatly diminished, or entirely disappear. "It is an old saying, a carpenter is known by his chips; certainly the skill of the lithotritist may be known by débris he makes."

ART. II.—ANALYSIS OF VARIOUS ARTICLES. Published in the last Dublin Quarterly Journal of Medical Science. By Prof. JAMES M. HOLLOWAY, M.D., Associate Editor.

Rigid Perineum.—Dr. Guinness Beaty reports to the Dublin Obstetrical Society a case of rigid perineum, requiring operative procedure for its relief. The woman had been in the second stage of labor for some hours and he found the head pressing against the perineum, which measured, during a pain, nearly four inches and a half from the anus to the fourchette. A portion of the hairy scalp protruded through a very small vulva. Digital examination, after a pain, discovered a "flat unyielding band, formed by the constrictor vaginæ muscle. With an ordinary pair of scissors one inch and a quarter of the soft parts were divided in the median line, after which the head was easily expelled. The operation was first suggested by his uncle, Dr. Beatty, and is deemed necessary to avoid the laceration that would have occurred if the progress of the case had been left entirely to nature's efforts.

Dr. Reginald E. Thompson, thus sums up his thermometrical observations of forty-seven cases of typhoid fever, made during three years:

1. The thermometer points out a distinction between typhoid fever and some other diseases which often simulate it, viz: acute granular kidney, meningitis, peritonitis.
2. The thermograph of typhoid differs from that of all other fevers, and especially in the mode of favorable termination.
3. An additional distinction between typhoid and typhus fever is thus given.
4. It is possible by its use to appreciate intestinal lesions, before they are recognized by ordinary symptoms.

Aphasia and Agraphia.—Prof. W. Ogle in a paper, which is published in St. George's Hospital reports, con-

cludes that these affections are the result of disease of the *left anterior lobe of the cerebrum.* His conclusion is based upon a careful analysis of a large number of cases reported by such men as Dax, of Montpellier, M. Broca and M. Trousseau, in which are given either *post mortem* results or "sure symptoms during life."

Croup and Diphtheria.—Dr. J. W. Howard, in the St. George's Hospital reports, urges the importance of tracheotomy in these affections. The operation should be performed as soon as the breathing becomes laborious, and more early in diphtheria than in croup.

Dr. Hayden reports to the Dublin Pathological Society a very interesting case of fatty degeneration of the heart, with great hypertrophy, in which there was heard a distinct *mitral regurgitant murmur.* Autopsy revealed a heart weighing 32½ ounces; the walls and valves are thickened, but no *insufficiency* in the *mitral* valves; the ordinary test with water showing these valves closing perfectly and entirely preventing leakage from the left ventricle into the left auricle. It was supposed that the murmur arose from the yielding of the walls, during the systole of the heart.

Dr. Cuming, in the Dublin Quarterly, refers to Dr. Hayden's case, and relates the clinical history and post-mortem developments of one in many respects similar. There was a distinct bellows murmur heard loudest at the left apex of the heart and at inferior angle of left scapula, there was pulmonary congestion, dyspnœa, bloody sputa, with anasarca. The cavities of the heart were healthy, with exception of a slight increase of thickness near free edge of anterior lip. The members of the Ulster Medical Society, after careful examination, decided that there was nothing strictly abnormal about the heart.

Dr. Cuming also relates a case of "*mitral regurgitation of a temporary kind,*" in which there was feebleness of general health and in which the bellows murmur could be distinctly heard. Prescribing tonics and following the case up closely, he was pleased to discover that the normal sounds of the heart were restored. The Doctor concludes "*that mitral regurgitation may be produced without organic disease of any kind, and—secondly, that it may in some instances give rise to the same physical signs and to the same general symptoms, as regurgitation from organic causes.*"

Management of Sleeplessness in the Acute Affections of Children.—Mr. Henry Kennedy, one of the physicians to the Cork-street Hospital, remarks on this subject, in relation to those points connected with raving and sleeplessness that are omitted by authors, generally, and that present features in children different from adults. He thinks that sleeplessness is much more serious in children, but, at the same time, more amenable to remedies. That the child is less able to bear up under the deprivations of so important a function, but, at the same time, the greater integrity of all the functions, ensures more prompt and certain action of therapeutic agents.

The employment of these remedies are appropriate, especially to the "acute fevers of childhood, such as typhus, with its several types; measles, scarlatina, smallpox," etc.

The first remedy is food; the habits of the child should be consulted and at the proper time, a little warm milk, or milk and bread be given, avoiding the common error of overloading the stomach.

The next is the administration of a stimulant, a little wine or brandy, in the shape of *negus*. Half an ounce to an ounce of good wine to a child six or eight years of age, will often induce sleep.

The next is the tincture of hyoscyamus, which has proved a powerful anodyne in Mr. K.'s hands. He gives to a child of not more than *four years* of age, as much as *one drachm** at a time. To older children *two drachms*, if the former dose fails to induce sleep. It has the advantage of not disagreeing with the little patient.

The next is the preparation of opium.

Their use demands more caution. The safest mode of administration is to sprinkle a small quantity of laudanum upon a warm poultice or saturate a soft cloth with it and apply to the abdomen. In very young children great care should be exercised lest narcotism ensues.

The last remedy is, *position*. Mr. K. attaches great importance to having the *head of the patient lay to the north*. "There are known to be great electrical currents always coursing in one direction around the globe; and there can be little doubt, (in my own mind there is none,) that our nervous systems are in some mysterious way con-

*The quantity of tr. hyoscyamus recommended suggests a foot note to indicate that there is no misprint, the dose, one and two drachms appearing in more than one place in the original article.

nected with this universal agent, as it may be called, electricity." Mr. K. has found, by experience, that the position of the patient is much more important amongst the higher classes, whose nervous systems are more easily influenced than amongst those who are usually the inmates of hospitals. He cites cases illustrative of the effects of this *remedy* and gives the names of Mr. Grimshaw, of Cork-street hospital, also of Dr. Denham and Dr. Wilson of Coleraine street, who corroborate his statements.

Mode of applying Carbolic Acid as a Surgical Dressing.—Dr. Maconchy, surgeon to the County Down infirmary, thus describes Lister's plan of using carbolic acid after an experience of nine months, in which time he gained much clinical evidence of its value. He considers it capable of destroying those septic germs in the air which cause suppuration and he gives two indications for treatment: "first, if air has once entered a wound or cavity that is suppurating, or is about to do so, the germs that have got in with it must be destroyed, and *then* their further entrance must be prevented."

The wound or cavity must be well cleansed with a solution of carbolic acid, 1 to 30, or in simply incised wounds, 1 to 60; and then the wound is to be closed with an antiseptic paste, composed of the acid and whitening sufficient to make a putty, placed between two layers of cloth; over this a layer of sheet lead or some similar article is to be bound smoothly and firmly, so as to exclude, as far as possible, the entrance of air. When it becomes necessary to change the dressings, others should be in readiness to be drawn over the wound as the old ones are removed.*

When suppuration is not very profuse, a piece of lint saturated with acid and oil, may be allowed to remain constantly over the wound and the other dressing, as above described, may be changed at will.

In the treatment of buboes and other abcesses, the bistoury should be entered under a rag steeped in the acid and oil, so as to prevent the introduction of air, ex-

*The preparations employed by Mr. Lister are denominated carbolic oil, carbolic lotion and carbolic paste. The composition of the first is carbolic acid and boiled linseed oil, in the proportion of 1 to 5; that of the second, carbolic acid and water, 1 to 30; that of the third, carbolic acid, with whitening sufficient to make a soft putty.—[ED.

cept the small quantity that enters through the antiseptic. The after dressing, the same as above. It is claimed by the Doctor that buboes thus treated require fewer dressings and the danger of their degenerating into chronic suppuration is lessened.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M. D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians of the Hospital.

LECTURE VII.—ON TWO CASES OF ANEURISM OF THE AORTA.

GENTLEMEN: The patient, from whom this anatomical specimen is taken, I understand, was before the class at the early part of the term of service of my predecessor in the clinic, who diagnosed the existence of an aneurism of the aorta. Subsequently, when I took charge of the wards, I was asked to see the patient and, when I did so, my first impression was that the existence of an aneurism was exceedingly doubtful. There was, undoubtedly, a pulsating tumor in the epigastrium, but the pulsation was over a very narrow space and consisted in a mere elevation and depression of the parieties of the abdomen and not at all in a swelling and expansive movement, such as is most characteristic of aneurism. All around the point where pulsation existed, there was dullness on percussion, which was also continuous with the dullness of the liver; and, although it was impossible to trace the edge of this adventitious dullness to the centre of the abdomen, so as

to make it correspond with the edge of the liver, the two areas of dullness merged the one into the other. I felt, therefore, in doubt in regard to the nature of the case; I was rather disposed, however, to the opinion that there was some tumor within the abdomen, possibly one of those scrofulous tumors which are so common in negroes, and which may form on the front of the spine and which consist of the degenerated lymphatic glands which lie in that region. These sometimes become enlarged and form considerable masses and then, being moved by the pulsation of the aorta over which the mass lies, they sometimes give an appearance of pulsation precisely like that of the aorta itself. On a subsequent day, however, while making another examination of the case, I became convinced that this view was not a correct one. I felt pretty certain that there was an aneurism in the region of the epigastrium, but whether an aneurism of the aorta or of the cœliac axis, or how large it was, I could not conjecture. My reason for concluding that there was an aneurism, and not a tumor of any other kind, was chiefly the want of continuity of dullness on percussion with the liver, such as had existed before, and the persistence of a pulsation in the vicinity of the epigastrium. The history of this case is this:

History.—John Benson, colored, æt. 51, born in Delaware, a whitewasher by occupation, married and of temperate habits. He complained of pain in his back, shooting down his legs; had very great difficulty in raising himself from a supine position, and felt, when he attempted to do so, as if he would break across the loins. When he lay in bed, if he was asked to turn from the position which he usually occupied, upon his back, it was with great difficulty that he could turn himself on either side.

On palpation there was a feeling of induration in the epigastric region. Pulsation was visible and could also be detected in the abdomen, by laying the hand upon it. A blowing murmur was very distinctly heard, when he

first entered the house, but it gradually diminished from time to time.

At ten o'clock in the morning this patient was as well as usual and, suddenly, at eleven o'clock he became faint and soon expired. The cause of this sudden death was the rupture of an aneurismal sac and the sudden discharge of a large quantity of blood.

Autopsy.—The heart was unusually small for an adult male, weight 9¾ ounces; tissue firm and of good color. This statement applies to the left, rather than to the right ventricle. The aortic valves contained a few specks of atheromatous matter, but were flexible. The walls of the right ventricle were thin and flabby. No alteration in the tricuspid valve. Pericardium enlarged at its insertion into the aorta, which is at the distance of about four inches from the heart, but it is apparently healthy. Aorta, dilated just above the valves, measuring more than two inches in diameter, its walls, perhaps, slightly thickened, but smooth, pliable and containing very little atheroma. The vessels arising from the arch of the aorta are quite healthy. In the descending aorta, the walls become more rigid. An aneurism involves the aorta just below the diaphragm: it is spherical in shape, flattened anteriorily, and larger upon the right than upon the left side of the spine. The diaphragm was on the right side, closely adherent to the aneurismal sac, and bulged upwards into the right pleural cavity. At the inferior part of the sac, close to the spinal column, there was an ulcerated opening, an inch and a half in diameter, through which the fatal hæmorrhage, amounting to a pint and a half, had occurred. The aneurism measured in its circumference, twenty-one inches. It was very closely attached to and embraced the spinal column, from a level with the second lumbar to that of the ninth or tenth dorsal vertebra. Upon passing the finger through the

ulcerated opening above mentioned, it came in contact with necrosed fragments of the bodies of the vertebræ, and it was evident that extensive necrosis and absorption of the vertebræ, included within these limits, had occurred. The aneurism seems to have arisen entirely from the posterior wall of the aorta. The anterior wall can be traced along the sac, remaining comparatively healthy. The vessels of the cœliac axis are moderately atheromatous. The abdominal aorta is of a natural size, its walls somewhat atheromatous, as are also the walls of the iliac arteries.

The curve of the dorsal vertebræ was much increased, as indeed had been evident during life, when the patient bent forward. The kidneys are in a state of granular degeneration, the cortex atrophied and their capsules adherent. The liver is of natural size, but very flabby. Lungs and spleen healthy.

You will probably have a good many years' experience, before meeting with an aneurism like that. Now, observe some other points: here is the arch of the aorta, and here the ascending aorta. You will notice again where the pericardium is attached and that, at a very short distance above the heart, it is dilated, measuring, according to the notes, two inches in diameter. You will also notice again, that the pericardium, instead of being attached about an inch from the origin of the aorta, as it usually is, is attached between three and four inches from the origin of the aorta. This arrangement must have given an enormous relative capacity to the pericardium. Why it should have occurred is not easily understood, for there are no marks of an effusion having existed in the pericardium. There is, however, a varicose condition of the blood vessels of the heart. See how tortuous they are, and how they stand out from the surface even now; of course, during life they must have

projected still more. What the cause of this condition was, any more than that of the enlargement of the area of the pericardium, I am at a loss to say, for there is nothing in the condition of the heart's tissue to explain it.

Tracing the aorta along its course, we come to the great vessels which are given off from its arch, the arteria innominata, the subclavian and the carotid in succession, and you see how very large these vessels are. The same is true of the adjacent trunks. Tracing the aorta farther down and passing the arch, you observe there is nothing peculiar except a decided thickening of its walls, until we reach the middle of the dorsal region, and then we come upon this tumor occupying the lower part of the thoracic, aorta and extending into the epigastric region proper and into the cavity of the abdomen. You see its enormous mass; it is as large as a child's head of three or four years old. You will notice, also, how it is formed, and the way in which such tumors are always formed. I had intended to bring you to-day a drawing, (but did not, owing to the unpropitious state of the weather,) in which there is represented exactly such a case as this, except that in it, the aneurism occupied the thoracic and not the abdominal aorta; but the condition of the vessel was identical with what exists here; that is to say, the anterior wall of the aorta was, as it were, continued over the sac and in continuity with the aorta below, just as in the present case, while the lateral walls appear to spread out precisely in the same manner and to the same extent as in the case before us.* Below you see the abdominal aorta and here its bifurcation. The cœliac axis and the superior mesenteric artery are given off directly from the crest of the tumor. The channels in these vessels were kept open by communicating with the centre of the tumor, for its sides are quite solid, but this middle por-

* See Cruveilhier; Anat. Pathol., Liv. 40, Pl. 2 and 3.

tion, which is in connection with the anterior wall of the aorta, is entirely free, while all the rest is filled with clots of blood. Afterwards, as we come down to the lower portion of the aorta, we find still an enlargement of all the vessels which arise from it.

You observe in the cavity of the aneurism and outside of it, a mass of clotted blood, and the discharge of this blood suddenly was the cause of the patient's death. Here is the opening in the aneurismal sac, from which the blood passed out. At the present time this opening is probably enlarged by the removal of the tumor from the dead body; its original size was from an inch to an inch and a half in diameter. The greater part of the tumor is filled up with a tough clot. You can see for yourselves that it is hard, fibrinous and of a yellow or buff color; in other words, it is coägulated blood, blood deprived of its coloring matter, and this it is which, disposed in concentric layers, usually forms the lining of aneurismal tumors. By its means, aneurismal tumors sometimes get well; aneurisms of the limbs, and aneurisms, even occasionally within the trunk, are in this way filled up with fibrinous clots. A sac is formed first, just as in this case, and is gradually filled up with successive layers of fibrinous clots.

Now, how is that sac produced? I cannot now enter upon a full description of the manner in which aneurisms are formed, it is sufficient for my purpose, in order that you may understand the pathological condition, before you, to say, that of course the blood in order to form this sac, must in some way have escaped from the vessel. How did it escape? The answer to this question is to be found in the condition of the coats of the artery, such as I have shown you to exist here, and as I have also shown you in the interior of the heart. You have heard, in the description given, something about atheromatous patches.

What are they? They consist of a deposit in the living membrane of the arteries. Instead of the normal tissue elements of the lining membrane of the artery, there is a deposit beneath that membrane of a substance which is neither bone nor cartilage, nor is it the normal tissue. It is not bone, but it is something which partakes of the character of bone. Formerly it was called an ossific deposit; the coats of the arteries were said to be ossified, but they are not so in the strict sense of the term, because this matter is not true bone, it is not organized like bone, but it contains certain of the ingredients of bone, that is to say, it contains phosphate of lime, carbonate of lime and gelatine, more or less, but it is not organized, and therefore, it is very brittle. Now being brittle, what results? Owing, perhaps, to an effort which the patient makes on some particular occasion, the aorta is over distended, one of these atheromatous plates cracks, a little fissure is formed upon its surface, and into that fissure the blood gradually insinuates itself; it may invade the middle coat, it may even penetrate that and get between the middle and the outer coat, and thus, from time to time, it makes a sac for itself, communicating with the original artery. This process goes on from day to day, from week to week and from year to year, as the case may be, and this little rupture, at first, perhaps, no bigger than a pin's head, at last forms a sac which may be as large as the one you see here. That is the manner in which true aneurisms are formed. There is another kind of aneurism which is not often met with in this situation, but may be frequently observed in the limbs, and in which it appears as if the coats of the vessels had been ruptured and the sac formed simultaneously. That is not a proper aneurism, it never reaches a very great size. But in this case, and in all similar ones, necessarily there is danger, because the parts that have become dis-

tended, and which yield more or less rapidly before the distending force, are bound by tissue of inferior vitality and of inferior strength, and they are likely to yield by further distension at any moment. But nature, fortunately, to use a figurative expression which we are obliged to do in order to convey the idea, nature provides against this accident; and how? Not always efficiently, it is true, or else this rupture would not be seen here, but there is a *tendency* on the part of nature to guard against it. You see these clots, and you know very well that they illustrate the tendency which all blood has to coägulate when it is removed from the direct current of the circulation. When blood is poured out into a sac like this, when it is thus removed from the direct current of the artery and from the direct influences of all those forces which keep it in a liquid state, it coägulates; but it does not all coägulate completely, it forms a layer of fibrin around the interior surface of the sac, and after this there is deposited another clot which lies upon and adheres to the first, and a third, and a fourth, each layer becoming firmer the longer it remains undisturbed, until finally the whole of the sac may be filled up with such coägula which may at last become almost as firm as tissue itself. Unfortunately these successive deposits do not always take place, nor do they occur equally in all portions of the periphery of the sac; some portions of it remain unprotected, some in which the blood does not coägulate firmly, from what cause we cannot tell, and there, whatever success nature may have obtained in protecting the other portions of the sac, there it ultimately gives way.

In this particular case, you see that it did give way; you perceive that the blood has been effused; and if you look into the interior of the sac you will observe what an immense amount of care has been taken to fill it up, but unfortunately, care in vain.

There is another point in this history not so prominently brought forward, as it is in some other cases, it is this. I have called your attention to the fact, that the natural anterior wall of the aorta in this case has remained very nearly intact, while the walls of the sac are made up of the thin and greatly distended sides of the aorta and its posterior wall. The destruction of the aortic walls has been general and complete, with the exception of the anterior portion, so that sooner or later, the interior of the cavity of the aneurism has been no longer bounded by any portion of the aorta on the posterior part, but is in direct contact with the vertebra. Now what is the effect of this condition? It is the effect produced by pressure upon bone anywhere; absorption of the bone. So this pulsating tumor so constantly acting upon the bones of the spine, and by every blow diminishing in some infinitessimal degree their surface, must at last wear them away. Now, the part that is most eroded by such an action is not the inter-vertebral cartilages. It is a curious thing that cartilage resists such force more perfectly than bone, and why? Because the cartilages are more yielding and elastic than bone. The cartilages, therefore, remain comparatively sound, while the bones are worn away, and cartilages stand out while the bodies of the vertebræ gradually disappear. Then what happens? What covers the spinal marrow then? Nothing but its membranes. The aneurism then presses upon the spinal marrow, and you have symptoms developed which were not, indeed, developed here, but they are seen in other cases, and would have been here, if the accidental rupture of the aneurism had not happened to cause the patients sudden death. Those symptoms are paralysis of sensation and of motion, in all the parts below the point where the pressure occurs. It is a remarkable thing that this paralysis is sometimes greater when the

patient lies upon his back, than when he lies upon his face. The destruction continuing, sooner or later, the bodies of the vertebræ give way entirely, and then you have what I called your attention to at our last meeting, the same result which takes place in caries of the bodies of the vertebræ from any cause; a projection of the spinal column backwards. These are the principal points which I desired to call your attention to in the present case.

Case II.—The history of the patient, whose remains are now upon the table, I am unable to give you in full, but it has this in common with the case that we have just discussed, that the existence of an aneurism was not made out, I may say, was not even suspected. In the former case, I did not consider that it was made out during life, but it was suspected; in the present case, it was not even thought of. The patient had been under care in this house for several months, for a certain disease of the lungs, and when I examined him I noticed nothing that would indicate the real nature of the case. Of course, the degree of examination which I can give to most of the patients here, having charge of so many, and so many other duties to perform, cannot be very minute, nevertheless it appeared to me that the patient had simply a solidification of the upper lobe of the left lung, for he had absolute dullness, amounting almost to flatness on percussion, over the whole of the upper third of that lung. In the same region, he had loud bronchial respiration and loud bronchial resonance of the voice, very loud, very clear, very distinct. He had an expectoration of muco-purulent matter, exactly such as comes from chronic bronchitis. The only question that presented itself was, what was the nature of the solidification? Was it tuberculosis? I could not determine positively that it was. The lung was solidified; it was too equally solidified for turbercu-

losis, and yet nothing in the history of the case seemed to throw any clear light upon the nature of the solidification.

Under these circumstances, the patient was growing weaker and weaker, and finally a sudden change took place in him, and in the course of four hours, it is stated, he died. He was pale and pulseless and cold, and therefore he may be said to have died by exhaustion or asthenia.

His body has been opened and, to my very great surprise, I found that there was an aneurism very nearly as large as that we have just been studying. The aneurism in this case, however, is in the thorax, extending from the first or second dorsal vertebra down to the eighth. The pressure of this tumor has eroded, as you see, the bodies of all those vertebræ between these two points, and so deeply as to leave the intervertebral cartilages projecting.

Now I will assert, positively that in this case there was no symptom whatever which would have led to the suspicion of an aneurism of the aorta, or of any disease of the heart. When I examined this patient I did so carefully. I listened to his breathing; I placed my ear on the anterior and on the posterior part of the chest, not once nor twice, but several times with great attention, and I am positive that there was no murmur of any kind that could be referred to the heart or to the aorta. Nevertheless, we have here what I shall show you presently, an enormous aneurism of the thoracic aorta. I dwell upon this point, in order to impress it upon you, that a disease as fatal and as extensive as this, in the neighborhood of two great vital organs, the heart and the lungs, may be going on, absolutely unsuspected.

This should lead you not to be satisfied with having found any one condition, sufficient to account for all the symptoms presented in a case, for there may be, as in this

instance, some other fatal disease going on entirely independent of that which you may have discovered, for I will say now, that the solidification of the lung which we did find, and which we shall presently examine, seemed to have no connection with the aneurism which we did not find and which we shall also see.

We found, then, an aneurism of which I can only show you now the interior of the sac. You see the opening into it. I have not been able to make a thorough dissection of it, and therefore, you will excuse me if I should be a little in error in regard to it. Here is the interior of the tumor. Here is the opening in it communicating with the aorta. You see the interior of the sac; you notice its rough appearance and this deposit of fibrin upon its surface. This case, like the last, illustrates the mode of formation of aneurisms which I endeavored to to explain to you briefly a few minutes ago. You see that lamina of coagulated blood, and this other one, and still another beneath the first, and I might go on separating the whole of this large mass into almost as many laminæ as I choose. You observe that they look very much like the imbricated superimposed laminæ of certain fungi, which are found in the woods. But the point which I want you particularly to notice is, they are separable from one another. They result from successive coägulations ot blood, and you will notice that the outer ones are the most solid, are the lightest in color. These more interior ones contain large portions still of the red globules of the blood; on the other hand, the farther out you go, the lighter the layers become, until at last they are so light that they are almost entirely deprived of the red color. There are other masses, also laminated, as you see, and here still others, and by observing these masses and these laminæ, you can estimate the shape and the great size of this aneurism better than you can from an exterior view of the sac itself.

I spoke to you about the solidification of the summit of the left lung, and on opening it you will notice, in the first place, that there has been a pleurisy of this lung, that the false membranes covering it are exceedingly thick, and so adherent, so tough, that I may lift up the entire lungs by means of them. Again, on making a section through the false membrane and through the lung, you will notice their thickness; they are perhaps one-sixteenth of an inch in thickness, and they are very white and tough, so that they are quite old.

But this is not all: on making an incision into the lung itself, you will notice that it is hard, but not like a pneumonic lung. Pneumonia, as you are aware, consists anatomically of an infiltration of the vesicles of the lung with fibrin, and the effect of its presence is to render the lung very brittle, so that it will easily break down; but this is different, it is tough and not brittle. I cannot, without considerable exertion, make any impression upon the lung at all. It appears to be in a condition called *carnification*, because the lung has been reduced, apparently, to a fleshy condition. There has been, no doubt, a compression of the lung by an effusion outside of it, and then it is bound down by the false membranes. These two causes, no doubt, combined to produce the carnification, which necessarily occasioned the dullness on percussion, and the resonance of the voice, the bronchophony, and the local bronchitis which were observed during life. The aneurism, on the other hand, as far as we can observe, had nothing whatever to do with it, for it was altogether latent, and I cannot see how, without a very lucky guess, we could have diagnosticated its existence during life. It is very possible, that if I had been examining this patient every day and watching his symptoms carefully, I might have discovered it; but certainly there was nothing whatever to denote it, no pulsation of

the arteries, no fits of dyspnœa, no difficulty in swallowing, no disturbed action of the heart, no blowing murmurs, no dropsy of the feet, even, which certainly was to have been expected from the position of the aneurism. It was, I repeat, perfectly latent, and I am the more emphatic in this, because I wish to impress it upon you, that you should always bear in mind that, whenever you have symptoms presented which are carrying a patient down to the grave, it will sometimes be prudent to withhold a positive diagnosis, unless you see a perfectly sufficient cause for the decline of health. There may always be something more, than you can at first discern.

ART. II.—CLINICAL LECTURE. Delivered at the Hospital of the University of Maryland, by SAMUEL C. CHEW, M.D., Professor of Materia Medica and Therapeutics and one of the Physicians to the Hospital.

The case which I have brought before you, gentlemen, presents some points of very considerable pathological importance, although at first sight you will be inclined to set it down as one of simple chronic rheumatism, of which you have seen here so many instances; and therefore, not possessing any very special interest.

Let us see, however, whether a careful examination will not bring hidden facts to light, and thus teach us some lessons worth learning.

The patient, Brown, is over sixty years of age, and has been a sea-faring man during the greater part of his life. He tells us that twenty-eight years ago, in the pursuit of his calling he chanced to be at the Island of St. Helena, at the time that the remains of the first Napoleon were transferred thence to France. A knowledge of his vocation is of interest, because it is one which involves constant exposure to the exciting causes of the disease under which he has labored.

It is not, however, so much on account of the rheumatism itself, that I have brought this patient before you, as because of a very striking and well-marked concomitant, and perhaps, consequence of that disease; an organic change in the heart. The rheumatic trouble is at present trivial in degree, amounting only to accasional pains in the elbow, shoulder and knee, which are somewhat aggravated in damp weather, but are never very violent in character. Formerly, however, according to his report, he suffered with severe pains in various joints, attended with high fever; so that, although, the disease is at present of the subacute or chronic form, we have reason to believe that the patient has previously sustained attacks of acute rheumatism. And this is a point in the history of the case of very great importance, because it throws light upon the origin of the cardiac malady.

There can be no doubt whatever of a certain connection between cardiac disease and acute rheumatism; no point in pathology can, I think, be regarded as better established than this. Many cases of acute rheumatism are met with, it is true, which are not complicated with any affection of the heart; but if the question be examined cursorily, it will be found that in a given number of cases of valvular diseases of the heart, or of pericarditis, an inquiry into their history will, in a very large proportion of them, bring to light the previous occurrence of acute rheumatism.

There is then certainly, this relation of antecedence and consequence between them, and I think I can show you presently that there is also a very intelligible relation of cause and effect.

But let me call your attention in the first place to the signs by which you can determine with precision the existence of a diseased condition of the heart, the exact situation of such disease and its probable nature.

The patient tells us that he suffers from palpitation of the heart; that this is increased by any exertion, as by going up stairs, and that he is troubled with cough; these symptoms, however, show only in a general way that the heart is not acting normally, without at all determining whether it is the seat of organic disease. But now apply your ear to the patient's chest, and a very important secret will be whispered to you in terms of unmistakable precision.

[The patient's chest was here auscultated by a large number of the class.]

You find that the natural first sound of the heart, which should be heard synchronously with its impulse against the wall of the chest, is superseded by a blowing murmur of a harsh, rasping character, distinctly audible as you pass the stethoscope from the apex upwards to the base of the heart, and even in the carotid and subclavian arteries.

Now, I would have you mark carefully *two points*, to which I have invited your attention; these are the *time* at which the murmur occurs, and the seat of its *greatest intensity*; for by comparing together the results of examnations made in reference to these two points, you can generally ascertain exactly what valve or orifice is in a state of disease.

Let me remind you that lesions of the cardiac valves and orifices are much more common on the *left* than on the *right* side, so that the probability is great that the seat of the trouble is either at the aortic or mitral opening.

At another time I shall have an opportunity of showing you how to distinguish murmurs occurring on the right side.

You have noticed that this murmur is heard at the time when the first sound of the heart should natur

occur, that is at the contraction of the ventricle, or when the blood is passing out of the chamber. It must, therefore be caused either by an obstruction to the passage of the blood in the right direction through the aortic orifice, or by its passage in a wrong direction backwards through the mitral orifice into the auricle again. But further, you have also observed that this sound is transmitted along the course of the aorta, and that it is heard distinctly at the base of the heart, and even in the vessels proceeding from the arch of the aorta. Now this could not occur unless the sound originated at the origin of the aorta; for, it it were produced at the mitral value, its intensity would be greatest near the apex of the heart, and would diminish as the stethoscope is passed to the right and upward.

We have thus determined that the murmur in question is aortic in origin, and being aortic, it is duc to an obstructive lesion.

A murmur dependent upon aneurism may be heard, it is true, at the same situation, and may be traceable along the aorta, but the sound in question in the present case is far too harsh and rasping in character to depend upon any such cause. By attention to this point, you may in doubtful cases often make the diagnosis, between a murmur denoting organic disease and one which simply shows anæmia.

We have now ascertained the existence in our patient of an obstruction at the mouth of the aorta, and upon this single cause a chain of very important effects is hanging. His heart is easily excited to distressing palpitation upon his making any exertion, because the blood cannot be propelled with sufficient freedom through the narrowed aortic opening. Again, the passage of the blood from the auricle into the ventricle is interfered with, and thus the circulation through the lungs is embarrassed, and dyspnœa

results with frequent and distressing paroxysms of coughing. Nor does the chain end here; the obstruction in the current extends over to the right side of the heart, and is manifested even in remote parts of the body. Look at the patient's ankles; observe their puffy and œdematous appearance, and you will see what grave consequences to to the system at large may result from an apparently small local trouble.

Now, what can be done to relieve this condition? Can we remove from the laboring heart the impediment against which it is striving, and thus clear the channel and let the current pass freely through?

Such a proceeding is manifestly impossible. All that can be attempted is to palliate the symptoms and to endeavor to keep the patient's heart in the best condition for accomplishing the increased labor that is thrown upon it. Any measures which tend to weaken the heart can of course only do harm by rendering it less able to overcome the obstruction, and thus causing still greater accumulation in the lungs, with an aggravation of the cough and dyspnœa, and of the dropsy resulting from venous engorgement. Even if hypertrophy of the heart have occurred, no benefit can be expected from bloodletting or other depletory measures; for the hypertrophy is a conservative result by which the heart is better enable to overcome the obstruction. And yet formerly, owing to entirely erroneous pathological views, it was the custom to treat hypertrophy of the heart with repeated bleedings, with the view, as was alleged, of diminishing its force; and thus the good that nature was endeavoring to accomplish was defeated by the injudicious interference of the physician.

In the case before you there is no discoverable hypertrophy; the impulse of the heart and the force of the pulse are not increased; but there is evidence of some

degree dilatation in the increased extent of cardiac dullness, and of the area over which the heart sounds are heard.

Now, if weakening measures be useless in hypertrophy, they are still more objectionable in dilatation, because the heart, besides having an obstacle to overcome, is in this case already fuller than natural.

What should be aimed at, therefore, and what we have tried to effect in this case, is to improve the patient's appetite, that he may be able to take a proper amount of nutritious food, by which his blood may be kept in a healthy condition, so as to maintain the muscular tone and vigor of the heart.

With this view he has taken ten drops each of the essence of cascarilla and of columbo three times a day, by which his appetite has been increased and his digestion improved. The tincture of the chloride of iron is administered in order still further to enrich the blood, and counteract the anæmia by which dropsical effusion its favored. When the cough is troublesome, it is palliated by calmants, such a paregoric and the extract of hyosciamus; the latter seems to afford more relief than any other agent.

We will now look a little more carefully into the pathology of this case; and let me tell you, by the way, that you will more readily acquire habits of exact and exhaustive study, by investigating a single case at a time, and examining it minutely, than by observing only the prominent features of a large number of cases.

The symptoms for which this patient has come under treatment are all referrable to the condition of the heart; the rheumatic pains are only occasionally felt, and are trivial in degree, and, though probable, it is by no means certain that the cardiac trouble was originally due to rheumatism.

For you must know that, in a certain proportion of cases, grave organic disease of the heart is met with, especially in advanced life, where there is no discoverable history of rheumatism.

Now, what is there, besides the effused fibrin of rheumatic inflammation, which could give rise to such an obstruction at the aortic orifice as exists in this patient?

Place your finger upon the radial artery in either wrist and you will notice a widely different condition of those vessels from what obtains in health. Instead of being uniform and elastic in consistency, they feel like hard, knotted cords. This change is due to the deposit in the walls of the vessels, beneath the lining membrane, of a substance known as *atheroma*, which is a form of fatty degeneration, and is of a soft, cheesy consistence and of a yellowish white color.

Examined with the microscope, it is found to contain oil globules, granular matter, and a large quantity of cholesterine; and to these, certain earthy salts, as the phosphate of lime and magnesia, and the carbonate of lime are added. After a time the softer constituents of the mass are removed to a greater or less degree, perhaps undergoing absorption; and the hard, calcareous substance is left behind, forming bony rings in the walls of the vessels, or rough excrescences upon the valves and edges of the orifices of the heart.

Remember, however, that this substance cannot be really regarded as bone, and the term *ossification*, so often used in this connection, is not properly applicable to the change. To the unaided eye the substance closely resembles bone; but under the microscope it is found to consist merely of an amorphous collection of the earthy salts, not showing any trace of Haversian canals or lacunæ, the structural arrangement characteristic of true bone.

Now this change, which can be detected with the finger, when it has taken place in the radial artery, makes itself known, when occurring at the valves and orifices of the heart, by the alteration it effects in the sounds of that organ.

Such calcareous degeneration, however, does not result solely from the changes which atheromatous deposits undergo, but may also supervene upon fibrinous exudation, or even upon cancer or tubercle. So that on the one hand, we occasionally find cardiac murmurs dependent on calcareous deposits in cases in which there is no history of rheumatism; and on the other, such calcareous deposits may be detected after death about the valves of the heart, as the result of rheumatic carditis; no atheroma being discovered in any part of the arterial system.

A bellows murmur, depending upon fibrinous exudation, about the cardiac valves, may at first be measurably soft in character, and afterward become very harsh and rasping, in consequence, probably, of the calcareous matter of the exudation remaining after the removal in greater or less degree of the other constituents.

By a corresponding change it sometimes happens that long after the deposits of tuberculous matter in the lungs, lumps of calcareous matter are expectorated, which are the residuum of the tubercle, after the absorption of its other ingredients. And the state of the cardiac valves, in the one case, is no more entitled to be considered an ossification, than is the change that has taken place in the tuberculous mass in the other.

If you were to ask whether, in the case before you, the obstruction at the aorta is due to an atheromatous deposit, such as exists in the radial artery, or to a fibrinous exudation caused by rheumatism, I would say that it is impossible to ascertain; nor is it of the least importance, in a therapeutic point of view, tha we should be able to

decide; while, pathologically, it is of interest to know that it may have been produced in either one of two ways.

I have referred to the fact that lesions of the cardiac valves and orifices are much more common on the left side of the heart than on the right; and with this fact is connected the consideration of some further points of very great interest, for the discussion of which we may still use this present case as a test.

Why is it, then, that the left side of the heart is so much oftener the seat of valvular disease than the right?

Various explanations of the subject have been advanced, many of which may be set down among those delusions which Lord Bacon describes as "*idols of the den*," consisting of hypotheses formed in ignorance and adduced simply because it was thought necessary to give some reason for the facts observed.

Thus it has been argued that the left is more prone to disease than the right side of the heart, because the task of carrying on the systemic circulation is more laborious than that of propelling the blood through the lungs.

But if this were the true explanation, and the mechanism of the heart were so badly adapted to the labor it has to perform, hypertrophy would be far more common than it is, and, indeed, would be a natural and inevitable result. By others it has been alleged that arterial blood is more stimulating than venous; which is simply absurd.

An ingenious explanation of this interesting subject, and one based, not upon mere speculation, but upon a rational deduction from facts, has been brought forward by Dr. Richardson, of London.

As already stated, it is known that a large proportion of cases of cardiac disease occur in persons who have suffered from rheumatism.

Now, it has been shown conclusively by Dr. Fuller,

whose authority upon this subject is entitled to the highest considerarion, that the cause of rheumatism is a morbid material of an acid reaction, circulating in the blood, and acting as an irritant upon those parts of the organism which are specially liable to this form of inflammation—the fibrous surfaces. This principle he considers to be most probably *lactic acid.*

Taking up the chain of reasoning here, Dr. Richardson argues, that, inasmuch as lactic acid is produced in the lungs, and is decomposed or eliminated in the systemic circulation before the blood has passed around to the right side of the heart; if an excessive amount of this substance be produced, the left chambers of the heart naturally experience the full effect of the poison, because the blood comes into contact with their lining membrane before the decomposition or elimination of the lactic acid takes place.

This view of Rr. Richardson's is corroborated by some very interesting experiments that he performed upon dogs. Upon injecting lactic acid into the peritoneal cavity of these animals, endocarditis was excited, as it is in rheumatism; but it manifested itself first, not on the left side of the heart, as when it occurs as a complication of rheumatism; but on the right side—the result that might naturally be expected from the blood first coming into contact with that side of the organ.

These facts make it eminently probable that the poisoned blood acts by direct contact with the affected fibroserous surface; and they also strengthen the ground for believing the morbid principle in question to be lactic acid.

We have here a beautiful and scientific explanation of what has long been a puzzle of pathologists; although it cannot be considered as positively established, for the pathology of rheumatism is still somewhat unsettled.

It has been argued against Dr. Richardson's view, that other acids might produce the same effects as those obtained by him from the lactic. It is not unlikely that they would do so; but if they should, this would not invalidate, but would only strengthen the conclusion, that rheumatism is dependent for its causation upon the presence of an acid in the blood; and that the cardiac is due to the same cause as the articular inflammation.

ORIGINAL CORRESPONDENCE

"Sit mihi Fas scribere audita."

BERLIN, PRUSSIA, 1868.

The gross immorality everywhere prevalent in this section of the globe, partly the effect of the abstruse metaphysical direction of their studies, which has rendered Germany the seat and centre of infidelity, and partly due to the twenty thousand soldiers quartered on the city, who, with the pitiful allowance of four dollars per month, are forbidden by law to marry during the compulsory three years of their service, and in a manner also, owing to the poverty entailed upon the masses in the support of such a costly administration—all combine to render this place a rich field for the study of the diseases "peculiar to women." Truly is it, "an ill wind which blows nobody good." The scrupulous delicacy, too, which characterizes all our intercourse with the fair sex at home finds no place whatever here; every examination implies full exposure. The women—of course reference is had to the cases at the clinic—early relieved of that modesty which is elsewhere considered a charm, submit to these investigations without a murmur: hence full op-

portunities are afforded for the prosecution of this department of medicine.

The Royal University of Berlin, founded in 1808, by King William III., is the grand centre of instruction in all the arts and sciences. Some four hundred different courses of lectures are annually delivered within its walls. The *Ars obstetricæ* and its collaterals are of course not neglected; a large building, the so-called *Eutbindungs Anstalt*, is solely devoted to this purpose. The first floor is occupied by lecture-rooms, officers' quarters, museum, servants, etc.; the second floor is the hospital proper, and the third story is the residence of the professor, a visit to whose elegant apartment would easily serve to dissipate any idea of impropriety from its position.

Prof. Edward Martin, to whose name might be appended all the titles which characterize the European celebrities, is the chief of the obstetrical department in the Royal University, which means Berlin. An occasional sprinkle of gray hair indicates that he is on the decline of life physically, while still in mental prime. Not a prepossessing face at first sight; a genial, affable gentleman on better acquaintance; a man whose well employed opportunities at Jean and Berlin have given him such a vast experience, as to entitle his words to weight. The institution being a government establishment and at government expense, the classes large and the incentives to labor which exist in the gradual preferment to merit powerful, it is not at all strange that every advantage is worked up in the highest degree; hence, everything that can be collected, not only in the hospital, but in private practice, is made available for clinical instruction. The general system is arranged as follows: Clinical lectures in the *Eutbindungs Anstalt* three times a week; lectures, also, three times a week on operative gynæcology, and the tri-weekly clinic at the Charitè Hospital on that class

of patients confined to bed. The provisions for obstetrics proper shall form the subject of a future letter. The former is the main school in this department. All the outdoor poor of the city with these diseases find relief here. In the lecture room, a tall cushioned table, higher, and but one-fourth as long as an ordinary hospital bed, with two steps for easy ascent, forms the operating table. A stationary cushion for a pillow, and a flexion of the limbs over the edges of the table, so arrange matters as not to require the procrustean efforts at extension necessary to prevent evasion. The force—a clinical clerk, an assistant at the head, another at the feet, and a third to the right, with the microscope, which is always made to contribute its instruction in the display of whatever form of cell or corpuscle, or spermatozoid perhaps, as has several times occurred, may exist in the mucus removed with the examining finger. But two varieties of specula are here employed: the porcelain tube and Sims' metallic, the former almost entirely. It is introduced with the plug, and seems but the work of a second. They appeared a handsome modification of the old Ferguson's, and had many advantages over any form of metal, but one fractured a few days ago in introduction, and that, too, in the master's hands, so that it is questionable whether its cleanly and handsome appearance is compensatory for its fragility.

The great number of flexions and versions of the uterus daily presented is perfectly surprising; three-fourths of the cases have this malady in some form or other, either as the primitive or complicating cause of their trouble. Prof. Martin is the author of a very exhaustive monogram on this subject, and has had, I understand, considerable success in its treatment. He is certainly an advocate of the pessary, for in his collection and employment are every form and design represented.

Those in most common use are the double concave perforated, the stem, and, as it was gratifying to my national predilections to observe, Hodge's horse-shoe. The general plan of treatment does not differ materially from ours at home. First, the subduction of any abnormal condition, then the mechanical support and position. The professor combats rather warmly the doctrine that the uterus has no definite position, and that a deflexion from its usual situation, unless complicated, requires no treatment. His affirmative is, that its position is fixed, and that beyond certain narrow limits any aberration therefrom is abnormal. The causes of such misplacements he ascribes to textural changes in the uterine walls, imperfect involution after delivery, contraction of one or both round ligaments, and adhesion to the anterior abdominal wall, relaxation of the pubo-vesico-sacral ligaments, fibroid and ovarian, tumors, long continued distension of the bladder and rectum, etc.

As might be expected in so large a clinic, there is considerable routinism in therapy, and yet it may be of interest to know what particular set of remedies a long experience has proven, or seemed to have proven, the most beneficial. It may be gratifying to those who have had an opportunity to observe the treatment of trachoma, to learn that the Lapis divina, cupri sulph. has a more extended range than an application to granulated eyelids. A dilute solution of sulphate of copper, and a dilute of strong solution of the nitrate of mercury are the only applications which I have seen exhibited, with the exception of a few cases of the tanno-glycerine solution, which is inserted in a saturated tampon, in cases of endometritis. In almost all the cases of cervical erosions, abrasions, ulcerations, acute and chronic inflammations, the copper solution is the *sine qua non*. Nitrate of silver, in substance or solution, or iodine, must be seldom employed,

as they have not as yet been applied. No occasion has as yet occurred, either, in which it was thought necessary to employ the various cutting instruments lately devised. In some remarks on that subject, the professor informed us that his successes and failures were about equal. He afterwards showed me, in a private conservation, the instrument which best met his approbation. It was Sims' steel instrument, with the curvature of the sound, introduced closed into the cervix, when a pressure on the handle protrudes two side blades, cutting on withdrawal. The uterine sound is constantly used, and the length of every one used noted. His instrument is a modification of Simpson's original. It possesses a more gradual curvature, commencing at the handle and continuing throughout. It is certainly easily manipulated in his hands.

Where there is such a diversity of material there must, of course, occur occasionally rare and curious cases. Last week a case presented of hypertrophy of the labia majora, involving the clitoris, very much of the character and appearance of the case of Prof. Wright, not long since removed by Dr. Dawson in the Commercial Hospital. The tumor in this instance was fully the size of a child's head at birth. The patient, however, could neither be persuaded nor coërced to suffer its detachment. Day before yesterday the Professor removed an immense polypus, which was attached to the posterior lip of the uterus. The pedicle was divided with the ècraseur, and the polyp delivered with the obstetrical forceps. The little hæmorrhage which ensued was easily checked by the actual cautery through a bone speculum. In yesterday's clinic two cases of prolapse of the posterior wall of the vagina presented. One, a case of distension by ascites from organic disease, the tumor being three inches in diameter and fluctuating, the other smaller, a rectocele.

For the former, of course, the only palliation which could be afforded was the operation of paracentesis abdominis, to which she had already been several times subjected; for the latter, a pessary and a purge. An old woman, nearly eighty, was exhibited last week, with entire prolapse of the uterus, cystocle and rectocle complete. The entire surface of the uterus was dry and hardened, of the appearance which the oculists call xerophthalmus of the conjunctiva; posteriorly, behind the os were two large abrasions from attrition. It was easily reduced, or reposited, and retained by a large stem pessary.

The numbsr ot cases of carcinoma is really frightful. Every day a victim presents, mostly, however, of the character described by Graily Hewitt, as cauliflower. Two cases of fungous growth from the urethra, each undergoing gradual absorption under the *ne plus ultra*, blue stone.

The female syphilitics are also treated here, but that is scarcely a disease peculiar to women. As an item of interest, however, may be mentioned the induction of the alterative effects by the hypodermic injection of a solution of the bichloride of mercury. CAUL.
—[*West. Jour. of Med.*]

NEW YORK CITY, August 12, 1868.

Much to the delight of us poor mortals, who are obliged to stay within the city limits all the summer through, the intense heat that prostrated so many during last month no longer oppresses us, although it is still very warm in the middle of the day. The mornings and evenings are cool and pleasant. Notwithstanding this agreeable change in the temperature, there is a great amount of sickness in the city and its suburbs. There have been a few cases of sporadic cholera in New York

City and Brooklyn. At the last meeting of the Board of Health Commissioner, Smith, on behalf of the Sanitary Inspectors, offered a resolution that all Sanitary Inspectors should report all cases of cholera coming under their notice to the Sanitary Superintendent, should visit and thoroughly disinfect the building where the disease occurred, and, if necessary, burn the clothes of the persons affected, and thus take all needful precautions against the advent of this terrible scourge. This excellent system has been in vogue in Brooklyn since the summer of 1866. Some of the filthiest portions of the city have been thoroughly disinfected, the streets being liberally sprinkled with a dilute mixture of carbolic acid and sulphate of copper. This is considered a much more effective agent than chloride of lime, which acts merely as an absorbent, while the former entirely destroys the poisonous organic matter, so that the streets thus sprinkled will remain free from infection until another coat of dust has been deposited upon it.

The mortality from diarrhœal diseases is very great. Especially is this true in the filthy and illy-ventilated tenement houses. Both in this city and in Brooklyn 74.80 per cent. of the total mortality last week was in children under five years of age.

The apparatus recently recommended by the Board of Health for rescuing drowning persons is in successful operation along the East and North rivers, and has been adopted by the Commissioners of Public Charities and Correction for use on board the steamboat Bellevue, plying between Bellevue Hospital and Blackwell's Island.

Considerable interest is being excited in medical circles by the proposed separation of the famous Siamese Twins, Chang and Eng. It is reported that they are about to take a trip to Paris to have taken into consideration by the surgeons there the important question of an opera-

tion which will separate them. This question was thoroughly discussed amongst the most prominent surgeons of London and Paris when the twins made their first appearance in those cities, and they were exhibited before the Academy of Physicians and Surgeons in Paris, in order to arrive at a final settlement of the vexed question, but the disagreement of the doctors led to an abandonment of the project. They have been united for fifty-nine years, and each is now the father of nine children. The reason for their wish to be separated at this late day is that, having reached such an advanced aged, they are fearful that one may become the subject of disease which may prove fatal to both. The twins are held together by quite a massive link of thoroughly normal and perfectly vitalized integument, some ten or twelve inches in circumference, situated near the vital organs, and in close proximity to the heart and lungs; and the connection is so intimate that each seems to be thoroughly an organized portion of the other, as much so as any of the ordinary members of a naturally-constituted human body. Sensation, nervous impression, mental phenomena, morbid, physical and nervo-mental conditions, all show a most perfect physical unity in this most wonderful dual physical existence.

Speaking of the mortality in the tenement houses of this city, Dr. W. F. Thomas, who has recently published some facts relating to these tenement houses, gives us some valuable information on this important subject: "It is believed that there are twenty thousand tenement houses in New York city, which contain, on an average, four families to each story, with five persons to each family, each person having about fifteen square feet of ground area and four hundred and eighty cubic feet of air—one thousand cubic feet of air being absolutely necessary for the health of each individual." With such a record be-

fore us, no wonder that disease runs riot through such dwellings.

It is gratifying to us Americans to receive news of the honors that are constantly being bestowed upon our celebrated countryman, Dr. J. Marion Sims. Upon him has recently been conferred the title of Commander of the Order of Christ, by the King of Portugal.

Did you notice, Mr. Editor, the report of the two cases of inveterate chorea, that have lately been successfully treated by Dr. Hammond, of this city, by means of sulphate of manganese? To one, a girl of fourteen years of age, he gave five grains, three times a day, and to the other, a boy of fifteen, the same dose, together with iodinized cod-liver oil. In both these cases, many other remedies had been tried in vain.

JAMES B. BURNET, M.D.,
Late House Physician at Bellevue Hospital, N. Y.

Louisville, August 3, 1868.

A curious error in Fahrenheit's thermometer is worthy of some attention at this time, when temperature is figuring and is likely to figure so largely in the diagnosis and prognosis of disease.

All thermometers of this scale mark 112° as fever heat. So high a temperature in the human body has, I believe, never been observed except in certain post mortem cases, as noticed by Dr. Dowler. It is now well known to the profession that in typhoid fever, a temperature of 104° in the morning and 105° in the evening indicates a very high grade of disease. When in any febrile disease the temperature reaches 106° there is imminent danger, and "108°–109° indicate *most surely* the near approach of death." Whence the authority, then, for marking 112° as fever heat? The *freezing point, boiling point of water,*

and *blood heat* are correctly marked, and it seems strange that so great an error as marking *fever heat* at 112° should have existed so long in Fahrenheit's thermometer. There should be no *fever heat* mark on the scale of any thermometer. Anything as variable as the heat of fever cannot be properly indicated by any one fixed number. For the sake of scientific accuracy and to prevent error, especially in view of the fact that temperature is now entering so largely into the investigation of disease, ought not the *fever heat* mark to be omitted from Fahrenheit's thermometer? Respectfully, R. C. H.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

MICRO-CHEMISTRY OF POISONS, INCLUDING THEIR PHYSIOLOGICAL, PATHOLOGICAL AND LEGAL RELATIONS, ADAPTED TO THE USE OF THE MEDICAL JURIST, PHYSICIAN AND GENERAL CHEMIST. By THEO. G. WORMLEY, M.D., Professor of Chem. and Tox. in Starling Medical College and of Natural Science in Capital University, Columbus, Ohio; with seventy-eight illustrations on steel. New York, London and Paris, Baillieres. 1867. Pp. 676.

This work has been long and anxiously looked for, having been projected as early as 1857, and a prospectus announcing its plan, published in March, 1861. All who take interest in the science of toxicology and who were acquainted with the character of the author for order, neatness, care and accuracy in everything pertaining to chemistry, and his profound learning in his favorite science, looked forward eagerly for the appearance of the results of his ten long years of labor.

The principal objects of the volume before us are, as the author observes, "to indicate the limits of the reäc-

tion of the different tests that have heretofore been proposed, as also of those now added, for the detection of the principal poisons and to point out the fallacies attending the reaction of each; and also to apply the microscope, whenever practicable, in determining the nature of the different precipitates, sublimates, etc., and to illustrate these, whenever of any practical utility, by drawings."

This was a remarkably good idea and one, we believe, to be entirely original, notwithstanding the valuable researches of Helwig and Guy in the same direction. But the works of these investigators were not published till long after Dr. Wormley announced his plan to the scientific world. And the indifferent and hurried wood cut illustrations, intercollated in Dr. Taylor's work on Medical Jurisprudence, appeared in 1865, four years after it was announced that such was the plan of Dr. Wormley's book.

In dealing with this work, we have to take into consideration its merits from more than one point of view. In regard to the scope of the work the author says: "It was originally intended to confine the work exclusively to the chemistry of poisons, but in order to adapt it to a larger class of readers, it was finally determined to also consider their physiological and pathological effects, and point out the treatment proper for each." Then it is intended to be useful not only to those specially engaged in the chemical investigation of poisons, but also to the medical jurist, the physician and the general chemist. In the purely chemical department of the subject, no fault can be found but everything to praise. Every poison treated of, is very fully considered, its history and chemical nature thoroughly set forth. The mode of testing, the delicacy and reliability of reägents, the manner of separation of poisons from suspected solutions, vomited

matter, contents of stomach, from the tissue and from the secretions, are treated in the clearest and most satisfactory style. It is greatly to be regretted that some of the most energetic poisons are not noticed at all. We do not see iodine, bromine, baryta, tin and other heavy metals; nor among the organic poisons have sanguinarina, lobelina, digitaline, picrotoxin, a place. These, together with others will, no doubt, be as thoroughly and reliably discussed in a second edition, as those treated of have been in the first.

In regard to the symptomatology and pathology of the work, we think it for general purposes, extensive enough and thoroughly reliable. It does not appear that it was the intention of the author to go into that branch of toxicology, further than to make the book more useful to the general practitioner, and if that object is attained, it is successful.

In treating of the subject of toxicology and medical jurisprudence, it must be borne in mind that the position of these sciences in this country is very peculiar and far from satisfactory; there are not, as in most European countries, men specially trained and set apart for conducting inquiries in any case calling for investigation; everything is left in the hands of the coroner, who, except he happens to be a medical man, often takes no heed of the manner in which a post-mortem examination has been made, or of the grounds on which the conclusions, officially stated before him, have been arrived at. In most of the States, no provision is made for the employment and recompense of a chemist or scientific expert. There is no inducement for a man to qualify himself as a toxicologist. The production of such a book as the one before us, a work, the like of which is not to be found even in the older countries of Europe, where science is so thoroughly cultivated, is a matter of wonder. It proves

that it has been a labor of love, and this itself is enough to establish the character of the work.

One of the many vexed questions relating to forensic medicines is—"Who is the proper person to conduct the chemical investigation in a case of suspected poisoning—is it to be left in the hands of the medical man who made the post-mortem, or should it be intrusted to a purely chemical expert?" To one of these propositions forcible objections may be brought forward. We should think any medical man engaged in the ordinary practice of his profession very blame-worthy, should he undertake the chemical investigation, even in an ordinary case, but more especially when a fellow creature's life depends on the result. Two sets of mishaps are liable to occur: he he is very likely to miss a poison really there, or to discover traces of substances which are not present in the body.

The former of these would arise from an insufficient knowledge of chemistry, as is illustrated by the case of one attempting to destroy organic matter, containing common salt along with arsenic, by heating with sulphuric acid, when the poison would pass off in vapor as chloride of arsenic. On the other hand, by employing vessels which have been used before and not properly cleansed, or by making use of impure reägents, the results may be falsified by the discovery of a poison, when no poisoning has taken place. On the other hand, questions are very likely to arise which cannot readily be answered by one ignorant of animal physiology. The proper person, it would seem, then, would be a physician well skilled in chemistry, or a chemist well acquainted with physiology.

Dr. Wormley discusses another *questio vexata*. What is a poison? All sorts of definitions have been given to this word. Some writers give very elaborate ones; others

evade the subject altogether, while a third class deny the possibility of defining a poison at all. Tardieu is amongst the latter. They maintain that poisons are not substances having a positive existence, but are mere potentialities, which under certain circumstances are capable of acting in a particular, *i. e.* poisonous manner. As an illustration of this dogma, Schauenstein gives a case which occurred in his own practice, of a person, who, for suicidal purposes, took a quantity of amygdalin, a substances which by itself is inert, but which, when brought in contact with emulsin, is resolved into prussic acid, etc. The importance of obtaining a proper definition of the word "poison" is all the greater, since, in the witness box, the medical man is left to state what a poison really is, and whether a certain substance can be considered a poison. In most European countries, (as in France) this difficulty is avoided by the law defining a poison to be "any substances capable of causing death," while the supreme Prussian tribunal recognises as poisonous, "all substances which, by virtue of their properties, are capable of destroying health." But though these are satisfactory in a legal point of view, they are far from being so scientifically. A celebrated English writer says, that "a poison is a substance which, when absorbed into the blood, is capable of seriously affecting health or of destroying life." This is not much better, since it excludes all substances which act locally, and kill, it may be, from the constitutional disturbance occasioned by these local derangements. A much better one, one we think, if it does not cover the whole ground, comes nearer to it than any hitherto given, is that of our author. He says: "A poison is any substance which, when introduced into the body and being absorbed, or by its direct chemical action, or when applied externally and entering the circulation, is capable of producing deleterious effects." It will be difficult, we think, to find fault with this definition.

The system, adopted in the work before us, in which *each article* is arranged, is about in the following order: history, physiological effects, symptoms, treatment, post-mortem appearance, chemical nature, special chemical properties, (reäctions and tests), separation from organic mixtures, quantitative analysis. We are struck with the clearness and precision of the descriptions in the chemical portion of the work, and the toxicologist will find it not only a perfectly reliable guide in testing, but also so thorough and minute, as to be unusually satisfactory. We look in vain, however, in this work for a scheme for a *systematic analysis* in a case of poisoning. This omission occurs in all the works on toxicology in our language. It is usual, in connection with each substance, to give the tests and the analytical processes applicable to it; but it is evident that these are only available when the poison itself is known, which is but seldom the case. Works on practical chemistry usually contain schemes for the systematic conduct of a chemical investigation, but in general, they limit themselves to inorganic substances and rarely include the proximate analysis of vegetable compounds.

We give the following process, with a view of assisting in supplying the want just referred to, and think it will be found to include the means of detecting most of the known poisons, and possesses the advantage of sacrificing none of the material operated on. It will usually be found that researches after the poisonous gases prove abortive, unless such as arseniuretted hydrogen have been absorbed, when arsenic may be discovered in the blood by the ordinary process; they may, therefore, be left out of the scheme. When the contents of the stomach have to be examined, it is necessary, in most cases, to dilute, with distilled water, until they attain the consistence of a thin pulp; their acidity or alkalinity may be ascertained in the usual way, and the whole

placed in a tubulated retort, or an alembic provided with a well-fitted capital. A gentle steam heat should be employed in the first instance, never exceeding that attainable by the vapor of an ordinary water-bath. By this process, such volatile matters as chloroform, ether, alcohol, free prussic acid, etc., may be collected in a receiver containing some water, either pure or mixed with caustic potassa, which should, after a time be changed. The contents of the retort rendered distinctiy acid with glacial acetic acid, and a few lumps of sulphur added, a fresh receiver, also, containing some water rendered alkaline with caustic potash, should now be attached to the retort and gentle heat applied, as before. Should any metallic cyanide be present, the acid will pass over, and be absorbed by the potash solution in the receiver, which will then yield characteristic results on being treated by the proper reägents for detecting cyanide of potassium.

When the presence or absence of prussic acid has been determined, the retort should be lowered into the water of the bath, which should be made to boil, and thus determine the union of any phosphorus that may be present, with the sulphur previously introduced. A part of the phosphorus may also pass over into the receiver as phosphorous acid. To effect the union of sulphur and phosphorus, a temperature under 212° F. suffices, and, in fact, anything higher would prove dangerous, as an explosion might take place. After removing the pieces of sulphur, they should be well washed, and then oxidized with strong nitric acid; this will convert the phosphorus, should there be any, into phosphoric acid, which may be recognized by the usual means.

These preliminary processes over, the vegetable alkaloids may now be sought, for which a modification of the process of Stas will be found the most suitable. Instead of using tartaric or oxalic acid, as he recommends, the

acetic acid already employed, will probably be found more serviceable, yielding as it does, a salt more soluble in water than those formed by the previously mentioned acids, and possessing the additional advantage of not introducing a poisonous element, whose existence has not yet been determined, into the substances under examination. In this process, there are certain obstacles to overcome, depending chiefly on the difficulty of separating any fatty matter derived from the tissues, and when blood is employed, of preventing the corpuscles from passing through the filter. Both, however, may be overcome by using extra care. After adding a little more acetic acid at this stage, the whole may be heated over the water bath, till the liquid portion has entirely evaporated; the blood-globules present will thus be broken up. On the addition of some water acidulated with acetic acid, and after throwing the whole upon a filter, if any coloring matter pass through, it will consist of hæmatine alone, which can be readily disposed of in a more advanced stage of the process. The substances remaining on the filter should be washed with hot alcohol acidulated with acetic acid, and the fluid part added to that which has already passed through. The whole fluid collected should be permitted to stand until it has cooled, when, if any fat be present, it will form a cake on the surface and may be easily removed. The filtered liquid should then be evaporated to dryness, again rubbed up with water or alcohol and again filtered; on a third evaporation it will usually be found tolerably pure, but should it not be sufficiently so, another filtration and evaporation may be had recourse to. The liquid should now be neutralized or even rendered slightly alkaline by pure bicarbonate of potash, or pure carbonate of lime, the free acid expelled by heat, the whole shaken up with chloroform in a tall test tube

and allowed to stand, well corked, for some hours, after which the chloroformic solution of the alkaloid may be removed from beneath the watery layer of fluid, by means of a pipette, and allowed to spontaneously evaporate in a watch-glass out of reach of dust. The residue, after separating the alkaloid may be used for the extraction of such substances as oxalic and other poisonous acids of difficult volatility, by processes laid down in systematic works on analytical chemistry. When the alkaloid is obtained in a separate state after the evaporation of the chloroform, it remains to identify the substance. A clue to the particular alkaloid may be gained simply from the appearance of the residuum in the watch-glass, for example, nicotine and conine are liquid and volatile, and would be left in liquid striæ on the sides of the glass, and moreover, would evolve an odor more or less characteristic, especially when gently heated. If the residue be solid, and more especially if it be in distinct crystals, the crystallographic form will usually enable one to get into the right track towards the identification of the body. Should it not occur in well marked crystals, a small portion of it solidified, will yield crystals which may be identified.

The very reliable pictorial illustrations, accompanying our author's work, will afford great assistance in this matter. In this way morphine, narcotine, codeine, strychnine, brucine, aconitine, atropine, veratrine, etc., may be so far distinguished as to enable the analyst by the application of a few confirmatory tests, giving characteristic reäctions, to pronounce with certainty as to the nature of the body found.

The substances left behind on the various filters are next to be collected, and examined for the mineral poisons; for which perfectly reliable systematic processes are laid down in the works of Fresenius, Wœhler and others.

In the present work, our author treats at considerable length, as to the mode of action of many of the poisons; many valuable facts as to their mode and period of elimination. It would be difficult to over-estimate the importance of such data, in cases where the possibility of finding a particular poison in the system, after a certain time, is affirmed or denied in a court of law.

The rapid strides made in toxicological researches of the organic poisons are strikingly evidenced in the chapter on strychnine. The chemical nature of this alkaloid was little known before the celebrated trial of Palmer, charged with poisoning Cook, with it in 1856. Since that time strychnine, as well as the other known vegetable poisons, have been closely investigated by chemists in every country, so that to exhaust the subject, our author devotes no less than seventy-six pages to the consideration of strychnine and its associate brucine, and illustrates them in fifteen finely executed steel plates, showing the microscopic crystalline forms of these bodies and their principal and characteristic compounds. There are many very interesting and important points to be noticed in this chapter, but our space will admit of a brief reference only to a new and successful process for the extraction of strychnine from the tissues and from the blood in cases where no more has been ingested than barely sufficient to produce death. Until recently, many eminent toxicologists held that, that portion of the poison (referring to the organic poisons) which produced death, was so changed, decomposed, or altered in the acts of producing its toxic effect that it could no longer be identified, that it was no longer the same body as before, and consequently, only that portion of the poison remaining un absorbed could be separated and identified by the chemist.

This theory appears to be exploded by the experiments of Dr. Wormley. He, by his process of treating the

matter with a considerable amount of sulphuric acid recommended, instead of the weaker acids, by Stas and others, has separated and identified to his satisfaction, strychnine from two ounces of bloody urine taken from a man who died in one hour and three quarters after the ingestion of the poison. From the tissues and the blood, exceedingly small quantities of it have been obtained. He says, "on following this method for the examination of six different cats and of two dogs, poisoned with comparatively small doses of strychnine, we in every instance obtained perfectly satisfactory and unequivocal evidence of the presence of the poison." "In two of these cases, in each of which half a grain of strychnine had been administered to young cats, and death took place in three and six minutes respectively, six fluid drachms of blood from each, furnished residues, about the fifth part of each of which, when examined by the color test, gave unquestionable evidence of the pure alkaloid. These cases show how rapidly a notable quantity of the poison may be absorbed, and how unerring is chemistry in detecting the merest trace of this death-dealing body, whether it be yet in the stomach unabsorbed, in the blood, or after it has gone its rounds in the system and passed out by the emunctories.

The treatment of poisoning by different agents is discussed under the respective poisons, but we do not see in this, or in most other works on toxicology a *general treatment of poisoning*. It is not enough for the practitioner to know what substances are best adapted as antidotes to particular poisons, for the time may come when these substances are not attainable, or when the nature of the poison is unknown.

Under such circumstances, a knowledge of general rules is all-important, and, combined with ingenuity on the part of the medical attendant, may succeed in preserv-

ing the life which would otherwise have been sacrificed. Absolute rules laid down for the practitioners' guidance are open, as usual, to several exceptions. The programme usually prescribed is, first of all, to remove the poison as soon as possible; to neutralize and prevent the absorption of what cannot be removed; to promote the elimination of what has already been absorbed, and finally, to treat symptoms as they occur. This, however, has been drawn up entirely with reference to poisons taken into the stomach and requires to be considerably modified when applied to such as are introduced directly into the system. There has been considerable dispute as to whether neutralization or removal should be first attempted—in reality, the rule must be modified by circumstances; the old dictum, that "the readiest remedy is the best," overpowers every other consideration. If the means of removal be at hand, by all means get rid of the poison at once; but if one should have to wait half an hour for a stomach pump, let him neutralize the poison immediately. When the poison has been introduced directly into the system, as in snake-bites, it is of greater consequence to prevent its absorption than to attempt its immediate removal. The venous current of the blood should be arrested by ligature or pressure, before any attempt is made by washing, sucking, cupping, or cauterizing, to purify its dangerous contamination. So, also, should the toxical agent have been introduced through the lungs, as in the case of such gaseous poisons as carbonic oxide or arseniuretted hydrogen, we cannot effect their removal, save by promoting free respiration in the open air; nor can we prevent the blood from becoming affected; our whole efforts should, therefore, be directed to strengthening the system sufficiently to enable it to throw off the injurious agent, or to warding off, as far as we can, the evil consequences likely to follow from it.

Our author speaks of the apparent antagonistic action existing between the physiological effects of opium and those of belladonna and of the asserted mutual antidotal quality of them. After citing some cases, he concludes by saying: "Since, however, recovery has so frequently taken place, even under apparently the most unfavorable circumstances, after enormous doses of opium and of belladonna had been taken, it is impossible to say how far the recovery in cases treated after this method, was really due to the alleged antidote."

This conclusion appears to be just, when we take into consideration the very loose methods hitherto made use of in experimenting upon this subject; but the observations of Drs. Mitchell, Keen and Moorehouse, which were made with extraordinary care, are entitled to more attention than is usually bestowed upon similar subjects. Their observations and experiments were made at the U. S. A. Hospital for Injuries of the Nervous System, and every facility seems to have been afforded for a thorough and reliable investigation of the physiological antagonism of atropia and morphia.

The results of their experiments seem to show that on the circulation the two agents do not counteract one another. Atropia does not affect the power of morphia to relieve pain. Both produce dysuria. Atropia does not relieve pain when employed subdermally, but as regards the eye, the two agents in question are mutually antagonistic, and as to their toxic effects upon the cerebral organs the two drugs are also mutually antidotal; but this antagonism does not prevail throughout the whole range of their influence. Atropia does not constipate, but often has a relaxing influence. Morphia has a reverse tendency. It appears that the effects of atropia are much more lasting than those of morphia, and great care should be exercised in using belladonna or its alka-

loid in treating poisoning by opium or morphia, lest the patient be exposed to the danger of an overdose of atropia.

The writer thinks that he has observed on several occasions that a mixture of one-tenth of a grain of sulphate of morphia, with the one hundredth of sulph. atropia, produced all the hypnotic and anodyne effects of morphia desirable, with little or no nausea or other disagreeable symptoms following it, and with patients in whom there was great intolerance of morphia.

Dr. John Harley, in the Gulstonian Lectures, delivered March 4th, 6th and 11th, however, says that from his experiments upon the horse, dog and man he could come to no other conclusion than that, as far as hypnotic influence was concerned, belladonna decidedly increased the effects of opium, and on the other hand, opium invariably intensified not one or two, but *all* the effects of belladonna.

We do not think experiments upon the lower animals will serve us in this investigation; it is well known that the effects, especially of organic agents, are different upon man and the lower animals. Dr. Harley's sweeping statement that *all* the effects of belladonna are intensified by opium should be taken with some allowance, for we know that their effects upon the iris are diametrically opposite.

This whole subject is replete with interest and its thorough investigation promises as much perhaps as any other in the domain of physiological and toxicological research.

Under the head of fallacies Dr. W. has introduced aniline as a substance very likely to deceive and mislead the inexperienced or the careless. But aniline is not treated of as a poison, neither is nitro-benzole the substance now used so extensively in the fabrication of the coal tar colors. Five cases of poisoning by this singular and powerful agent are recorded. These, together with the results of

experiments with nitro-benzole on cats and dogs, go to show that a poison may be retained in the system for many days without showing its effects, and that it may be changed in the system into an entirely different substance, *i. e.* into aniline, which subsequently becomes oxidized and changed into mauve or magenta.

These are very important as well as curious facts, and seem to throw some light on the processes going on in our bodies, and it is just such light that is wanted now to enable physiology to progress.

Another most singular and dreadful poison is lately described, which does not find a place in our writer's pages. It is a volatile mercuric compound, similar to corrosive sublimate in composition, except the chlorine is replaced by methyle (C^2 H^3). Mercuric chloride being Hg Cl^2, this new body, mercuric methide, being Hg Me^2. Two cases of poisoning by this agent are reported. One proved fatal; the odor of the breath and of the body got very offensive, the patient became, at times, maniacal and died eleven days after his admission into the hospital; the other became idiotic. All working in the laboratory at the time suffered to a greater or less extent with symptoms of mercurial poisoning.

The post-mortem examination revealed a generally congested state of the brain, but especially of the gray matter, the liver congested, the kidneys congested and soft.

One of the most prominent features of this work is the superior character of its pictorial illustrations. Executed on steel, they are marvellously beautiful, and their great accuracy adds much to their value and importance. It is pleasant to learn from the preface that science owe them to the skillful hand of a lady. Dr. Wormly may well dedicate the book to his wife, for it owes a very large portion of its usefulness and beauty to the work of her hands.

In taking leave of this work, we must not omit to say that its typography and general appearance are excellent and reflect great credit upon the printers and publishers. It is one of the finest scientific books ever published in this country. We hail it as a very important addition to our scientific literature, and as such heartily recommend it to every practitioner of medicine and of law in the land. T. E. J.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

MODERN HOMŒOPATHY.—From the London Monthly Homœopathic Review, for June, 1868, we learn that Lord Elbury gave vent to a feeling of regret that the report of the London Homœopathic Hospital did not contain evidence of a greater development of the objects of the Institution. The number of patients was not very large and the clinical lectures had been given up, "owing to the attendance being so scanty as greatly to discourage the lecturers."

We also find that the fourth object of the founders of the Hospital was, not is, "to let inquirers see of what homœopathic treatment consists and *wherein it differs from other methods of cure.*" But the position is now assumed, that "when a physician adopts homœopathy he does not bind himself to use medicines on no other principle. His first and chiefest obligation is to the patient." His second duty only is due to homœopathy, for he must do the best within his knowledge for the promotion of his patient's recovery or relief. "When a case, or part of a case, is without the sphere of the homœopathic law; in other cases where his knowledge of the practice fails him; and, again, where a suitable palliative appears to be demanded, he is bound to use other than homœopathic means. This is always required in private practice," and is carried out in the London Homœopathic Hospital, although "a plan of treatment partly homœopathic and partly something else; one, in which one patient is treated in accordance with the law of similars, and another only

partially so"—will fail in securing no less than four out of the five objects, to achieve which the Hospital was founded, viz: to obtain statistics by which the success of homœopathic treatment *may* be compared with other methods of cure; to demonstrate the success of pure homœopathic treatment; to teach the system in all its purity, etc., etc. All these great objects are subservient to the interest of the sick, for the editor says: "We all know and admit that there are cases in which the most conscientious and painstaking (homœopathic) practitioners feel compelled to fall back upon auxiliary (allopathic) aids to eke out a modicum of relief, or indeed to assist in curing."

Accordingly, in the London Homœopathic Hospital, in which the cases "are not of so serious a character as one is accustomed to see under treatment in hospital," black wash is applied to syphilitic sores and ½ grain doses of mercury given internally. Cases of glandular enlargement in the neck were treated with tincture of iodine painted on externally. For cases of continued sleeplessness 1.48 of a grain of acetate of morphia was given every fifteen minutes.

The Hospital physicians repudiated, one and all, the fallacies and absurdities of Hahnemann about infinitesimal doses and dilutions. They frequently told an inquiring physician "that the doses were not a part of *their* system; that like cures like was all *their* creed; although it is not a matter of general or partial belief that morphia keeps people awake; that iodine produces enlargement of the glands; and black wash produces syphilis.

These Hospital physicians, and many others, have at last returned to the use of the medicines of the rational school in appreciable quantities; and the editor says the treatment in the above cases "was far too like allopathy to be advisable in a homœpathic hospital," although "so long as the doses of mercury did not induce mercurialism, our opponents cannot (or rather should not) complain." He also says, he would avoid painting a glandular enlargement in the neck with tincture of iodine publicly in a homœopathic hospital, although he might unhesitatingly do it in a private practice. And formally admits: "As regards the giving of morphia for sleeplessness, however necessary it may be considered by the medical attendant, it cannot be called homœopathic treatment."

The homœopathic editor trusts his readers will thoroughly understand that he has no wish to object to those methods of treatment *per se*, although unsuitable for a hospital called homœopathic.

We are hardly surprised to find that Dr. Yeldham, the principal physician to the London Homœopathic Hospital, in what is called an excellent speech, delivered at the annual meeting of the Institution, referred to the possible expediency of a middle school, which would embrace both homœopathy and allopathy; and Dr. Reith said he knew many homœopathists who are prepared for the coalition.

The editor of the Homœopathic Review "has not the slightest doubt that some such step (or surrender) would be fraught with incalculable advantage to practical medicine," and it remains for us to see in what it should consist. If Hahnemann was so utterly mistaken about the efficacy of his infinitesimal doses; if every observation which he made upon the sick was an error; if every supposed cure was simply a recovery, it is not only not possible, but probable, that much of his reasoning and theorizing about the *similia similibus curantur* is also false? If the frank and practical homœopathists must make such large concessions about the dose, will they not also be soon obliged to make equally large concessions about the theory? If we can judge from the following prescriptins, some of the homœopathists can make every required concession:

Quin. sulph. gr. viij; ext. cannibas ind. gr. iv; ext. aconit. *rad.* gr. iv. Make 8 pills; 1 every 3 or 4 hours. F——r.

Hydrarg. sub. mur. gr. iij; mass hydrarg. gr. iij; aloes gr. iij; podophyllin gr. ½. Make 4 pills; to be taken at once. F.

Potassæ sulphuret ℥j; aq. ℥iv. Solve. M——d.

Pulv. alum erstæ ℥iiss; tannin ℥iiss; tinct. myrrhæ ℥j. For a gargle. M——d.

Magnesiæ sulphat. ℥iij; tinct. cort. aurant. ℥xvj: acid. sulph. aromat ℥ss. M.

Ferri persulphat. ℥j; adipis. ℥j. M.

The Medical Gazette says: "Hahnemann taught that one grain of sulphur well rubbed up with 100 grains of sugar of milk could be developed into a medicine of tremendous energy. Some of his disciples of the Billy Barlow kind have made great improvements upon the simple

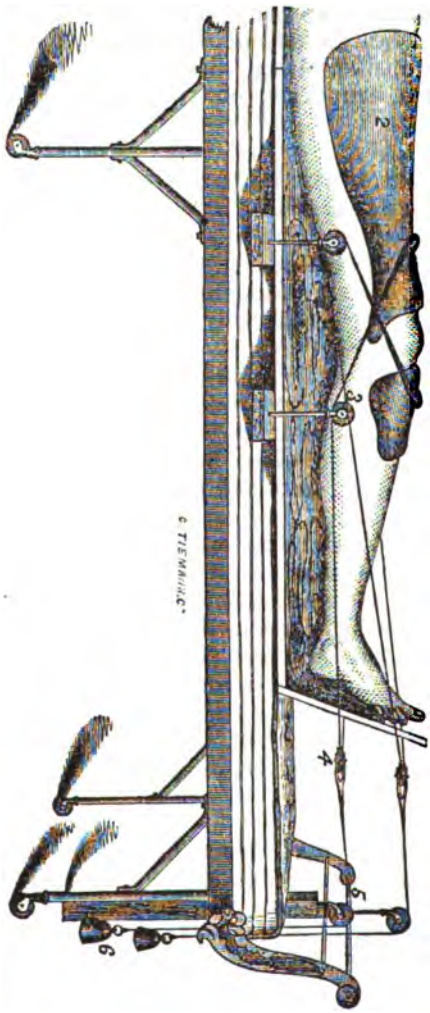
proceeding of Hahnemann, and found out that 2 grains of sulphur mixed with 126 grains of conium, quinine, and morphine, are still more efficacious. See following prescriptions: Sulphur pura, gr. ij; ext. conii mac., ʒiss, or 90 grains; quiniæ sulph., ℈iss, or 30 grains; morph. sulph., gr. iij; podophyllin, gr. iij; *i. e.* 126 grains of conium, quinine, morphine and podophyllin, to 2 grains of sulphur. Make 30 pills, each containing 3 grains of conium, 1 grain of quinine, 1-10 grain of morphine, 1-10 podophyllin, and 1-15 grain of very pure sulphur and give one or two several times a day in all cases in which sulphur was formerly considered useful, namely, in dyspepsia, biliousness, psora, eruptions, constipation, etc."—[*Chicago Med. Exam.*

Treatment of Diseases of the Heart.—Dr. S. O. Habershon, Physician to Guy's Hospital (Guy's Hospital Reports, 1867), lays down seven principles of treatment for diseases of the heart: 1st, to lessen its work; 2d, to insure regularity of action in avoiding all excitement; 3d, to lessen the distention of the right heart by purgatives, diuretics, &c.; 4th, to prevent syncope attendant upon exhaustion; 5th, to strengthen the fibres of the heart by suitable out-door exercise; 6th, to prevent fibrillation of the blood by suitable remedies, for instance, carbonate of ammonia; and 7th, to prevent secondary complications, such as pneumonia, pleuritic effusion, &c.

Uterine Injections.—At a recent meeting of the Imperial Academy of Medicine, the subject of uterine injections, which of late has occupied the attention of that learned body, was again briefly discussed, and MM. Gosselin, Depaul and Ricord condemned this method of therapeutics, which, despite the perfection of the instruments adopted, may determine an attack of metro-peritonitis, which, according to the declaration of MM. Gosselin, has already occurred in the service of M. Jobert.—[*L'Evenement Medicale.*

In Michigan recently thirty-five men went into a harvest field to cut grain. About ten A. M. no less than sixteen of them had been sun stricken, the majority of whom died under the exposure. Such an instace of wholesale casualty has hardly a parallel in the history of this country. —[*Ex.*

A NEW DEVICE FOR THE TREATMENT OF FRACTURE OF THE PATELLA. By J. H. HOBART BURGE, M.D., ETC. The number of methods already in use for securing the best possible union after fracture of the patella is so great, and so much ingenuity and experience have been brought to the subject, that one could hardly excuse himself for occuping afresh the attention of the surgical world, unless he felt sure that he had something of real value to contribute.



If the fracture be simple and there be no considerable swelling of the limb, it will not be necessary to bandage from the foot. Should there be much local inflammation, an evaporating lotion should be applied till its severity is abated. In other cases we may proceed at once to the permanent dressing.

Place the limb upon a straight splint of uniform width provided with a foot-piece and comfortably padded. The foot may be elevated, or not, as seems best in individual cases. A substantial piece of sole leather, of suitable length and width to cover the anterior aspect of the thigh, should be nicely fitted by narrowing it toward the knee and making its lower end concave, to adapt it to the upper border of the patella. Immerse it in cold water till it is thoroughly pliable. (If

hot water be used 'twill take too long to dry). Pad it on one side with cotton-batting and cover with cotton-cloth, neatly sewed on. Confine it to the limb by means of a bandage evenly applied. After a few hours 'twill be firm as a board. Then a small, strong cord, stitched across the lower end of the splint (2), is passed through a pulley at a lower level (3) on either side of the limb, and made to complete the circuit by traversing a pulley (4) beyond the foot. Another cord passes over the wheel (5) at the foot of the bed, connecting the flying pulley (4) with the weight (6). The lower fragment may be dressed in a similar manner, as shown in the engraving; further description is unnecessary.

The amount of extension and of padding, and the tightness of bandages, must, of course, be left to each surgeon's judgment. The smallest-sized metallic pulleys are cheaper, more appropriate, and just as efficient as larger. Those at the side of the limb should not be attached to the long splint; 'tis better to screw them into separate strips of pine board lying transverly under the long splint. Their distance from the limb, and their inclination from the perpendicular line, must vary in different cases; otherwise the cord will sometimes press unpleasantly upon the sides of the limb, or slip from the pulleys.

While my efficient house surgeon, Dr. A. S. Spohn, was dressing a case for me, he introduced what I have called the "flying pulley" (4), and I was glad to adopt it, equalizing as it does the pressure upon opposite sides of the limb.

When the leather splint has become dry and firm, the bandage which secures it may be replaced by strips tied or buckled around, outside of both upper and lower splints, thus leaving the circulation free in the side of the limb.

The straight splint upon which the limb rests may be divided transversly and strongly hinged opposite the knee, to enable the surgeon to make slight passive motion without disturbing the dressings; in this case, however, it will be necessary to support it upon another board.

The advantages promised by this apparatus are:

1. It leaves the injured bone so exposed to the surgeon's observation that he need have no anxiety in reference to *tilting*, *side-slipping* or *retracting* of the fragments.

2. It grasps so firmly, and yet so tenderly, the quadri-

ceps extensor, together with the upper fragment of the bone, that it enables us to approximate the broken surfaces more completely than I have ever been able to do without violence.

3. It is comfortable to the patient.

4. It is inexpensive, simple in all its parts—easily extemporized and easily applied.

I am not unmindful of the fact that some are now treating these fractures without apparel of any kind, and I have no doubt that where the separation of the fragments is very slight, some of the best results will follow this plan of non-interference. This expectant method in surgical practice must, however, be the exception and not the rule.

Surgeons using this apparatus are requested to report their cases.

[The use of the wrapped ring, bound over the patella, as recommended by Dr. Gibson, of St. Louis, is superior to this method, or any other as yet reported.—[Ed.]

Musical Bullet Probe.—At the Paris Exposition there was exhibited a probe for announcing audibly the presence of a bullet in a wound. If the points of the instrument came in contact with a metallic body, an electrical circuit was made and a small bell rang.

A ozone generator was also exhibited, made of flat plates of glass coated with tin foil and electrified by a Ruhmkoff coil. A stream of air driven through the apparatus came out so higly charged with ozone as to be irrespirable and possessing the power of bleaching paper, linen, soiled engravings and so forth. This discovery is spoken of as likely to be of much practical value in the arts.—[*Pacific Medical and Surgical Journal.*

Deaths from Sunstroke.—An examination of the statistics of death from sunstroke in the city of New York, gives the following exhibit: In August, 1853, 224 persons died from sunstroke; in 1863, there were 135 deaths from sunstroke, and during the present year up to Saturday, the 18th ult., there were no less than 833 deaths from heat alone, as reported by the papers.—[*Ex.*

The oldest doctor in the world, Professor F. Verdugo, Salamanca, Spain, died lately, aged 105 years. He had practised medicine for eighty years.

THE HIPPOCRATIC OATH.—I swear by Appollo, the physician, and Æsculapius, and Health, and All-Heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this Art, if they shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of Medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from what is deleterious and mischievous. I will give no deadly medicine to any one it asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my Art. I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption; and further from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice, or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret.

While I continue to keep this Oath unviolated may, it be granted to me to enjoy life and the practice of the Art, respected by men in all times! But should I trespass and violate this Oath, may the reverse by my lot!

A CONTRAST.—The Medical School of the University of Berlin has 401 students in attendance. Its corps of instructors consists of 14 ordinary professors, 12 extraordinary and 24 private instructors. We have several medical schools in this country that claim an attendance of over 400 students, who receive all their instruction annually from 7 or 8 professors, and in the short space of 4 or 5 months.—[*Ex.*

RANKING'S ABSTRACT and Braithwaite's Retrospect, the one republished by Mr. H. C. Lea, of Philadelphia, and the other by Townsend & Adams, of New York, have made their semi-annual appearance and have their usual valuable and varied contents. We heartily commend each ot these publications to the patronage of the profession.

ONE of the Paris medical papers notices the death, at the age of 87, of a nun in a Carmelite convent in Italy, who had been bled in the course of her life *three hundred and seventeen times* for attacks of rheumatism, to which she was subject.

DR. JOSEPH ADOLPHUS, of Logansport, Indiana, in a recent number of the Medieal and Surgical Reporter, highly compliments John C. Baker & Co.'s cod liver oil. It is undoubtedly one of the best brands in the market.

THE second number of the Half Yearly Compendium of Medical Science, edited by Drs Butler & Brinton, of Philadelphia, is issued. This enterprise appeals especially to the support of American physicians and deserves it.

THE last words of Velpeau were: "Il faut toujours travailler, mes amis."

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

UNIVERSITY OF NASHVILLE.—On the payment of $6,000 by the present professors in this medical school, Professors P. F. Eve and Joseph Jones retire from it. The latter has accepted the chair of Chemistry and Humoral Pathology in the University of Louisiana; this chair having been made vacant by the resignation of Prof. Mallet. While, by the resignation of Dr. Mallet, this school loses an able and experienced teacher, his place will be most fully supplied by his successor.

Druggists Renewing Prescriptions.—The Academy of Medicine, New York, after a long and impartial discussion of the various points at issue, adopted unanimously the following preamble and resolutions, and referred them to the State Medical Society;

Whereas, The attention of this Academy has been called to the repetition of prescriptions, containing active ingredients, by druggists, without the written order of physicians; and whereas, serious consequences to patients are liable to ensue; therefore,

Resolved, That we respectfully request the druggists of this city not to repeat such a prescription without the written order of the physician, he being the only competent judge of the propriety or necessity of such renewal.

New Medical Journal—The first number of the Monthly Medical Reprint, published in New York, by John Hillyer, 14 South William street, has been issued. This journal proposes to be a reproduction of the most valuable articles published in the latest issues of the British medical journals, and some translations from the French and German medical press. It is to be published monthly at $5 00 per month.—[*Ex.*

Messrs. Lindsay & Blakiston, of Philadelphia, have made arrangements to act as agents in this country for the publication of "The New Sydenham Society." These valuable publications are to be obtained at the reasonable price of $10 00 per annum. They are also agents for the best foreign and American medical journals. No house is more prompt, just and satisfactory in its transactions.

An autopsy has been performed at Bellevue Hospital on a body that had been perfectly preserved for 72 days by means of carbolic acid; still another public autopsy took place upon the body of a patient who had died 107 days previously and had been preserved in a similar manner, with the same highly satisfactory results.

The Jewett and Russell prizes of $200 each, have beeu awarded to Prof. Roberts Bartholow, of Cincinnati, by the Connecticut State Medical Society. Dr. James F. Hibberd, of Richmond, Indiana, receives a similar honor from the Massachusetts Medical Society.

THE cattle disease, according to an official note published in the Paris Moniteur, has completely disappeared from Western Europe, and is dying out in the districts of Central Germany most liable to it. The French Minister of Agriculture has, therefore, reëstablished complete liberty for the cattle trade on the frontier, and in all the ports.

IN the Florence Nightingale ward (in King's College Hospital) a lying-in ward, the mortality has been 7 in 28 cases. This shows that if a lying-in hospital is bad policy a lying-in ward attached to a general hospital is inexcusable. In this case, nurses, labor, management, training, diet, etc., were all that could be desired.

RECENT foreign journals record the death of the celebrated physiologist, Matteuci, and Dr. Ramsbotham, author of Obstetric Medicine and Surgery. In our own country we have to chronicle the death of Dr. Morton, of Boston, the first man who *demonstrated* the value of ether as an anæsthetic.—[*Ex.*

THE two sons of Dr. R. Ogden Doremus, of New York, the well-known chemist, while playing in a wooden playhouse at the back of his residence, on the 26th ult., accidentally set it on fire. They were unable to escape immediately, and the younger of the boys perished in the flames.

THE Ann Harbor College repudiates homœopathy and rejects the State endowment on the condition named, viz: that homœopathy would be taught in its lecture-rooms. It has lost the services of Professors Armor and Greene.

DR. J. G. RICHARDSON, U. S., has, in a large number of examinations of human blood, (nearly 1,000 specimens), met with a molecular substance denominated by Professor Salisbury *zymotosis translucens*.—[*Ex.*

THE Detroit Medical School has made no further progress towards its origination and organization.

THE Berkshire Medical College, incorporated in 1822, has closed its doors.

Prof. Hallier, of Jena, Prag. Vierteljahrschrift, vol. 97, has discovered a fungus peculiar to cholera. This fungus is propagated from 16° to 20° R., but not below 10° R. without the human body—.[*Ex.*

Dr. Lewis A. Sayre is ill at Long Branch, New Jersey, in consequence of a wound received, during the amputation of a gangrenous limb.

Messrs. Kelly & Piet, of Baltimore, Md., will furnish the English edition (weekly) of the London Lancet for $12 00 a year.

The publication of the New York Medical Gazette has terminated.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

Transgressors of Medical Ethics.—Several of the friends of this Journal are anxious to have it expose the names of many physicians (some prominent and some obscure) who have transgressed and are daily transgressing the laws and principles of medical ethics; these transgressors being conspicuous in number and manifesting an infinite variety of offense.

Pitiable and contemptible plagiarists, who unscrupulously extract the choicest materials from foreign books and journals, and have them presented, as original contributions, in medical or secular publications at home; weakly adding to such papers by "drawing upon imagination for their facts, and upon memory for their wit."

Modern authors, who issue new editions of their works, with alleged copious amendments and additions, when stereotyped plates, used for previous editions, betray the

transparent imposition, and indellibly stamp the discreditable act.

Prize-essayists, whose productions, contributed as the results of original research, are translated verbatim from foreign publications.

Practitioners claiming to be honorable men, who voluntarily accept the fee-bill determined upon by their associates and themselves, declaring it to be their guide, when, secretly, they charge but a fraction of the amounts determined and give receipts, in full, for even less than the sums so unfairly and dishonorably charged. "Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and *honor*; to exalt its standing, and to extend the bounds of its usefulness. *He should, therefore, strictly observe such rules as are instituted for the government of its members.*" —[*Medical Ethics.*

Consulting physicians, who assiduously and habitually make those very honest little visits, *in transitu*, to families, wherein they have been unsuspectingly invited in consultation; imagining that these speculative calls are welcome and acceptable, when they are really offensive and dishonorable; supposing that their efforts are slily, ingeniously, and judiciously made, when, on the contrary, they are known to all men; the action publicly discussed, and the actor justly derided. "The consulting physician should carefully refrain from any of those attentions or assiduities, which are too often practised by the *dishonest*, for the base purposes of ingratiating themselves into the favor of families or individuals.—[*Medical Ethics.*

Unfair physicians, who, unwilling to wait for the due reward of study, observation, industry and honesty, fly to the daily Prints for notoriety, directly reporting therein their cases, operations, successes, etc. or, what is worse,

inducing weak and sycophantic friends to have this discreditable work done for them. "It is derogatory to the dignity of the profession to publish cases and operations in the daily Prints, or to *suffer* such publications to be made; to invite laymen to be present at operations; or to perform any other similar acts. These are the ordinary practices of empirics, and *are highly reprehensible in a regular physician.*"—[*Medical Ethics.*

Intriguing and avaricious doctors, of financial tendencies, who, not content with the professional fee, determined upon, jointly, by their brethren and themselves, prey upon the necessities of needy druggists, "farming out" to them frequent and expensive prescriptions, for a comfortable *pro rata* of the money received.

Superficial and dishonest competitors, who approach strangers on the streets and angle for practice known to be entrusted to a professional brother; who offer aid that is unasked and proffer advice that is naturally undesired and justly rejected. Plausible tricksters, who publicly scorning the empiric, privately practice all of his stratagems; who have all the vices and intrigues of the empiric, without his courage and independence.

The catalogue is a long one and varied—two well known to require a detailed description. Such "*tricks*" are "as familiar as household words." The names of the actors, however, cannot, as has been requested, be published.

While the judgment of those making this request is respected, still, in the exercise of an opposite and independent judgment, such an office is unchangeably declined.

In all such cases, those who have any complaints to offer should bring the offenders before the tribunals having appointed and recognized jurisdiction, viz: State and County Medical Societies.

A journal may insist upon an observance of medical

ethics, while it declines to aggregate the names of those whose conduct is offensive; as one may advocate the principles of Hygiene without becoming a scavenger.

Again, according to the familiar and homely aphorism, "there are two sides to every story," and these should be examined *by proper judges* before a public verdict can *justly* be recorded. Character is far more valuable than life, and, if the last is fully guarded by law, surely the first is entitled to equal protection.

In conclusion, it is repeated that all who have complaints to make should, *responsibly*, prefer charges before the appropriate medical organizations. When fair trials have been made and just verdicts given, the names of the culprits will then be *bulletined*, that the undiscovered guilty may take warning, and that those whose record is unstained may enjoy a proper appreciation and a merited reward.

Prof. Samuel Henry Dickson.—The friends of this gentleman will be gratified to know that under all the disadvantages of increasing years (bringing bodily infirmity), of physical suffering, and the many demands made upon his time, that his literary energy and industry remain unimpaired. He has recently contributed three valuable papers to American Medical Journals, and these papers manifest all of his admitted vigor and ability.

In reference to the pages devoted to advertisements, it will be seen that Dr. Nathan Bozeman has opened, in New York city, a hospital for the Surgical Diseases of Women. Dr. Bozeman has long cultivated this specialty, and it is generally believed, that all patients sent to him will receive, under excellent advantages, treatment both skillful and scientific.

On Bartholow and Pro's Liberal use of Prize-Essays; or, Prize-Essaying Made Easy, etc.—This is the title of a pamphlet, received from its author, Dr. Geo. C. Blackman, of Cincinnati, Ohio. Dr. Blackman submits extracts from Topinard's essay on locomotor ataxia, and on the same pages presents extracts from Dr. Bartholow's prize-essay on the same subject. It is impossible to avoid the admission, that the portions presented of Dr. Bartholow's essay constitute verbatim translations of the portions extracted from the essay of Topinard.

Dr. Blackman charges that this use of Topinard's essay is made throughout the essay of Dr. Bartholow. The respective papers have not been read, by the writer, but if as is charged by Dr. Blackman, the extracts presented are fair specimens of the spirit and composition of Dr. Bartholow's prize essay, there can be no doubt that this essay is a gross plagiarism, and not, as is claimed, by Dr. Bartholow, a synopsis of Topinard's Paper.

Dr. Blackman's pamphlet would be more effective and damaging in its results, if it did not manifest evidences of bad personal feeling towards the author of the essay criticised. Such manifestations reflect injuriously upon a critic, and tend to destroy the general effect of his criticism.

New American Cyclopedia—Sixteen volumes, 8vo, 750 pages each. All in want of this valuable work, or of any of Mr. Appleton's publications, will find it to their interest and advantage to address Mr. E. T. Boag, care of A. T. Stewart & Co., New York. Mr. Boag is well known to the editor of this Journal and all sums sent, as indicated, will be disbursed with fidelity and the best judgment.

By an omission, much regretted, the article of Prof. T. G. Thomas, in the August issue of this Journal, was not credited to the Obstetrical Journal of New York.

THE CRAIG MICROSCOPE.—Physicians will find it to their advantage to consult the advertisement of this microscope, as published in this number of the Journal. This instrument is strictly as is represented. It magnifies 100 diameters and is furnished at a cost within the reach of the poorest. The editor of this Journal will receive and forward all sums sent him, by those desiring to purchase.

THE COUNTER IRRITATION OF CUPS INCREASED.—Mr. E. J. Leyburn, of Lexington, Va., has invented a cup which increases the efficacy of cupping, as a counter irritant. The invention consists in an adjustable irritating disk of serrated wood, which, by coming in contact with the integument, under the pressure generated, establishes a harmless but very effective irritation. The cost is trifling.

ST. LOUIS COLLEGE OF PHARMACY.—The attention of all interested, is called to the great merit and peculiar advantages of this Institution. These are plainly and modestly set forth in a pamphlet, which can be procured by addressing Dr. O. F. Potter, St. Louis, Mo.

NOTICES.

SINCE the increase in the size of this Journal, the commutation, allowed to clubs, and to those subscribing through other Journals, is discontinued. Commutations, at present existing, will be continued for one year, from the date, on which they respectively commenced.

NOTICE.—Physicians who are members of Medical Associations or Societies are respectfully requested to send copies of all interesting reports or abstracts of instructive debates, etc., for publication in this Journal.

NOTICE.—The issues of this Journal for January, June, July and August being exhausted, fifty cents will be paid for each number of the Journal, for these months.

NOTICES TO SUBSCRIBERS, ADVERTISERS, CONTRIBUTORS, AND CORRESPONDENTS.

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BOOKS AND JOURNALS RECEIVED.

The Principles of Surgery. By James Syme, F. R. S. E., Surgeon in Ordinary to the Queen in Scotland, etc. Philadelphia: J. B. Lippincott & Co., 1866. From publishers, through Cromie & Sherrill, Louisville, Ky.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—ON CHRONIC PNEUMONIA AND ITS RELATIONS TO TUBERCULOSIS. By PROF. J. L. CABELL, M.D., University of Virginia.

The August number of this Journal contains an admirable translation, by Prof. Frazee, (of the Kentucky School of Medicine), of a discourse on Tuberculosis, delivered before the Academy of Medicine at Paris, by M. Barth, an eminent clinical observer and teacher. The discourse in question is an earnest and, in some points, an able defense of the doctrines of Laënnec and the French school, in general, in respect to the pathology of pulmonary phthisis, and the nature of the so-called tubercular infiltration, in opposition to the now exclusively prevailing views of Reinhardt, Virchow, Niemeyer and others of the German schools. The questions in issue are far too important not to merit and command the earnest attention of inquirers after truth. We regret to say, that the mode of considering them, adopted by M. Barth, does not seem calculated to contribute, in any important degree, to their solution.

His argument consists, for the most part, in contrasting pneumonia, and that, too, the ordinary acute croupal pneumonia, with tuberculosis, in respect to anatomical characteristics, symptomatology, clinical history and prognosis. Niemeyer, the principal expositor of the new views, would concede the general accuracy of this contrast, which is totally aside from the questions in controversy. The main points are these: Niemeyer affirms, that in every form of pneumonia, the croupal form very rarely, the chronic interstitial much oftener and the chronic catarrhal most of all, the exudation may undergo caseous degeneration and that, when this occurs, one of the most common results, if not prevented by appropriate treatment, is a destructive softening and ulceration, giving rise to a pulmonary phthisis which at first, at least, is non-tubercular and may continue to be so, though, when a tubercular disposition exists, the vulnerability of the patient is greatly increased by these destructive pneumonic processes and tubercular deposits may supervene. He, also, affirms that this kind of pulmonary phthisis is exceedingly common, much more common than primary tubercular phthisis, which he considers to be comparatively rare. Now, these great and important questions M. Barth does not argue; indeed, he scarcely notices them, except the last, and that only by a sweeping assertion, that "true chronic pneumonia"—of which, apparently, he recognizes only the interstitial variety—"is exceedingly rare."

The German pathologists deny, moreover, the tubercular nature of the so-called infiltrated tubercle and of much of Laënnec's crude tubercle, which they affirm to be nothing more than inflammatory products in the state of caseous degeneration. This we admit to be a disputable point. There may, too, be ground for doubting the alleged frequency of pulmonary phthisis from purely

pneunomic processes and the comparative rarity of tubercular phthisis. These points can only be settled after further careful observations—clinical and pathologico-anatomical.

Whatever be the final decision of competent observers, as to the development of true tubercle in the infiltrated form, we hold it to be undeniable that, in some cases, at least, chronic pneumonia presents anatomical characteristics which cause its products to be mistaken for infiltrated tubercle, and the symptomatology and clinical history of these cases exhibit all the most striking features of pulmonary phthisis. This being so, we hold that the German pathologists are much nearer the truth than will be conceded by those who pin their faith to the dicta of the leading representatives of the French school.

M. Barth recognizes the possibility of a "chronic pneumonia," but asserts, with iteration and emphasis, that "it is extremely rare." In this, he only follows most of his distinguished immediate predecessors of the Paris school clinical teachers, Laënnec, Chomel, Louis and others, as he is followed by most of the American pathologists who have been trained in the same school, but there is one notable exception, in the person of the illustrious Andral. Adverting to the opinion so generally prevailing in Paris, as to the rarity of chronic pneumonia, this eminent pathologist announced in his "Clinique Medicale" (third edition, tome 3, p. 491) that he had encountered this disease much more frequently and that he did not consider it to be a very rare affection. "Its anatomical character," he proceeds to say, "is an induration of the pulmonary tissue, which, at the same time, becomes impermeable to air and exhibits a tint which is either slate, gray, brown or black. Sometimes the induration involves an entire lobe or a considerable portion thereof; *sometimes there are isolated lobules which are thus indurated*

and they are separated by perfectly normal tissue, or finally the chronic pneumonia may be still more circumscribed and invade only a certain number of air vesicles within a lobule. In such a case the lungs may be sprinkled over with a more or less considerable number of granulations, which have been erroneously regarded as products of new formation. Under one or the other of these three forms, chronic pneumonia may be a sequel of the acute affection, which is rare, or it may be insensibly developed, without evidences of acuteness at any stage, which is much more common. We will add that it is not rare to find tubercles in the lungs, surrounded by indubitable traces of chronic pneumonia, especially when they are softened and transformed into caverns."

In another passage (Loc. Cit., p. 550, note), Andral expresses views similar to those of Niemeyer, so warmly disputed by M. Barth, respecting the relation of tubercles to a prior pneumonic deposit. "While recognizing that in a large number of cases the pneumonia appears consecutively to the tubercles, and consequently cannot be regarded as their cause, we must also admit that there are other cases in which the chronic pneumonia has evidently preceded the formation of the tubercles. This appears to be the case when in the midst of a lung hepatized, in nearly its entire extent, we find a few scattered tubercles in the forming stage. They are too small and too scanty in number to have produced so extensive an hepatization, which, on the contrary, has most probably determined their development."

Niemeyer goes a little further than this and asserts that, not *some*, but *most* patients with pulmonary phthisis "are not in the beginning tuberculous," but the difference is merely one of a numerical degree, a question of more or less, and seems scarcely to warrant M. Barth in characterizing the views of the German writer as belonging

to a "land of cloudy conceptions and forced systems."

That chronic pneumonia may present all the most striking clinical phenomena of pulmonary phthisis, Andral makes apparent by the following clinical report: "A man 49 years of age, who had quit military service in 1815, has always been in feeble health since that period, but did not take to his bed until 1819. A chronic pulmonary catarrh, which underwent occasional aggravations, had not, prior to that date, prevented his usual employments. But from the end of that year his catarrh became more intense and distressing; profuse hæmorrhages of the lungs occurred at intervals; his respiration became habitually difficult; his strength diminished; diarrhœa came on and went off several times. In the course of the last two years, the patient was received several times at the hospital of 'La Charité' and each time went out slightly relieved. He entered for the last time about the middle of September, 1822. He was then in a state of extreme emaciation and debility, with frequent cough and considerable dyspnœa. He could not maintain the horizontal decubitus. The greater part of the left side of the chest was dull to percussion. Posteriorly, on the same side, several varieties of moist bronchial râles were heard. At many points there was a strong vocal resonance, which was especially marked in the supra-spinal fossa. On the right, side there was a little râle mixed with the natural respiratory murmur. The sputa were formed of a thick, greenish, homogeneous mucus. The patient had no sweats. His pulse was frequent and a profuse diarrhœa prostrated him. This prostration made rapid progress during the next few days, the limbs became œdematous and the patient sank." The autopsy revealed the following appearances, among others which need not be detailed: "The tissue of the right lung, at the summit, was transformed into a black and

very hard substance. A similar matter was disseminated in many other points of the lung, under the form of little isolated masses, and in the intervening spaces the lung was engorged with a large quantity of sanguinolent serum. The left lung, throughout its entire extent, was impermeable to air. Its tissue, very much indurated, presented a mixed appearance of black and gray. Quite near the surface, throughout the entire periphery of the lung, there were small cavities, which might have contained a filbert. In every case they communicated with a nearly capillary bronchial tube, the lining membrane of which was continued over the walls of the cavities, whence it was apparent that these cavities were formed by the last ramifications of the bronchial tubes dilated and terminating in culs-de-sac. A similar, but much larger, cavity was found at the very summit of the lung, where the vocal resonance had been especially strong. The upper four-fifths of the small intestine presented nothing remarkable. Four or five ulcerations, with irregular and very slightly elevated borders and a brownish base were found in the lower fifth. The intervening mucous surface was pale. The internal surface of the descending colon, of the sigmoid flexure and of the rectum was strongly injected and covered with purulent looking matter." [Andral, Lor. Cit., p. 229.]

Commenting on the phenomena of this case, Andral justly insists that they all indicate a chronic inflammation of the pulmonary parenchyma. The black induration, occupying a large part of the lungs, seemed to be the same alteration as the grayish induration in other points. The two appearances indicated unimportant shades of difference of the same morbid state, to-wit: chronic pneumonia. As to the isolated masses, Andral shows that there was no better reason for considering them to be neoplasms, under the denomination of mela-

nosis in mass, than there would be to regard the black induration of an entire lobe as infiltrated melanosis. He regards them as cases of partial or lobular pneumonia with pigmentary deposit. Not a trace of a tubercle could be found in any part of this inflamed parenchyma. But could this have been affirmed with confidence during life, namely: that the lungs were entirely exempt from tubercles? Andral thinks not. It is true that the expectoration was purely catarrhal, but often in tubercular phthisis this is the case. The physical signs would have been the same, with and without the presence of scattered tubercles, in the indurated parenchyma. The hectic fever and profuse sweats of tubercular phthisis are sometimes wanting, when the tubercles are not numerous and especially when there are not many caverns. We may add that they often exist in cases of chronic pneumonia, in which there is suppuration, which goes to confirm Andral's induction that they depend upon the abundant excretion of pus.

The foregoing remarks refer chiefly to that form of chronic pneumonia, which is indolent from the commencement, and which, in Andral's experience, had been observed more frequently than the other variety, which commences with the symptoms of an acute affection. Nevertheless the latter variety is not very rare. Graves [Clinical Lectures on the Practice of Medicine, edited by Neligan, second edition, Dublin, 1858,] records six cases of abscess of the lungs, *all of which were cured*, and in regard to which he makes the following comments: "Some may think that the duration and previous history of the disease may serve to distinguish simple from tubercular abscess of the lungs, but a more accurate examination of facts will show that *no reliance is to be placed upon either as a means of diagnosis*, for, on the one hand, tubercular abscess forms in the course of a few weeks

from the apparent commencement of phthisis, and, on the other, simple pulmonary abscess is often preceded by inflammation of many months' duration, and the origin and progress are, as in case II, *quite identical with those of phthisis.*"

The case referred to was as follows: In the summer of 1839, Dr. Graves was requested to see a boy about twelve years old who had caught a cold the preceding spring, under the effects of which he had ever since labored. The disease had been but little attended to and no appropriate treatment employed, until emaciation had considerably advanced and his constitution was evidently sinking under the inroad of the malady. An eminent physician had pronounced the boy's case hopeless and had declared that he was in the last stage of phthisis. He was brought to Ireland by short stages, and, though his removal was accomplished with all due care and circumspection, yet his father was more than once in a state of well-founded apprehension that he would expire on the road. The disease in this case had been *so long in forming, had advanced so steadily* and had attained to such a degree of intensity, that little or no hope remained of his recovery. The physical phenomena and the constitutional affection were much the same as those detailed in case I, with the exception that the expectorated pus was neither so abundant nor so fetid. (These phenomena were cough, dyspnœa, bloody expectoration, dullness on percussion, gurgling so marked as to be heard without the application of the ear or stethoscope to the thoracic walls, fever, emaciation and colliquative sweats.) Only one lung was affected. "His parents were anxious to remove him to the country and Sir Philip Crampton and I felt much hesitation in sanctioning this step, as the danger of his immediate dissolution was so imminent. His friends, nevertheless, executed their intention, and

about five months afterwards I was astonished to learn that the boy had perfectly recovered and was then engaged in frequently enjoying the diversion of hunting in the county Tipperary. In both these cases, the history of the disease and its unexpected termination prove that the subjects were affected with chronic pneumonia, ending in the formation of vast abscesses in the *upper portion* of the lung which brought both patients into a state of the greatest jeopardy, but finally yielded to the curative powers of nature. *I do not see how, in either, a physician was to distinguish them from tubercular abscess.* Had the disease in either been more acute, the diagnosis might have been possible; but, in both, the progress was at first insidious, occupying many months previous to the formation of the cavities and accompanied by gradually increasing constitutional symptoms and hectic fever." [Graves, Loc. Cit., vol. ii, p. 45.] The mode of invasion and subsequent progress of these cases were almost identically the same as those assigned by Niemeyer to chronic catarrhal pneumonia, in a description which M. Barth would entirely discredit. In some of Graves' cases the affection was much more acute, convalescence in one case having been established in six weeks after the occurrence of the first expectoration of matter.

We have ourselves had an opportunity of observing the progress of two or three cases of chronic pneumonia which presented almost every character of phthisis and in which a positive diagnosis could not have been announced, until the establishment of convalescence excluded the hypothesis of tuberculous infiltration. The first of these cases occurred about eighteen years ago. The patient, a girl of twelve or thirteen years of age, who had previously enjoyed good health, had an attack of common acute pneumonia early in February, the affection being seated in the lower lobe of the right lung.

The progress was similar to that of any typical case for the first eight or ten days and it was believed, from a temporary amelioration of the constitutional symptoms, that resolution was about to take place, although the *crepitus redux* had not supplanted bronchial respiration, which, with dullness on percussion, continued without abatement. In a few days the fever was rekindled with great dyspnœa and harassing cough. Emaciation and profuse sweats supervened, coincident with profuse purulent expectoration, attended with loud gurgling cavernous respiration. It was supposed that tubercular infiltration had occurred and had softened into abscesses. She was put on cod-liver oil, though her intolerance of this agent, in an ordinary dose, was so great, that it was found necessary to accustom her stomach to its presence gradually, administering only five or six drops at first and adding one drop to each successive dose. It was three months before the patient left her chamber and a much longer time before she went out of doors. Eventually, however, she fully recovered her general health, with a very considerable contraction of the right side of the chest, causing a depression of the right shoulder and a slight lateral curvature of the trunk. She has ever since enjoyed excellent health.

Another case, of more recent occurrence, was that of a distinguished personal and professional friend in a neighboring town, from one of whose attending physicians we obtained the following history: Dr. R. L. M., aged 39 years, of lymphatic temperament and whose mother died of "consumption," was seized on the 1st of December, 1866, after exposure for several hours to a cold wind, with a chill, attended by a severe pleurodynia on the right side, the pain shooting up to the right shoulder. This was followed by high fever and great oppression of breathing. The attack was at first ascribed to an epi-

demic influenza prevailing at the time and was treated with diaphoretics, diuretics and anodynes. The patient improved rapidly, so that on the sixth day he dressed himself and walked into another room, but still coughed a little and complained of stiffness in the right side, with inability to expand his chest without some pain. These symptoms underwent no marked change, during the next six days. On the 12th, he stood for some minutes at his outer door, in conversation with a person who had called on business, exposed to a sharp and cold wind, his house being on the summit of a very high hill. During the afternoon or night he awoke from a disturbed and unrefreshing sleep, with an intense aggravation of all his symptoms, and from this date he was extremely ill, with high fever, pain in the chest, great dyspnœa and hacking cough. The physical signs were not recorded until the nineteenth day of the month and of his sickness, when they were reported as follows: "Percussion on right side in front dull, behind flat; auscultation in front shows vesicular respiration somewhat weakened, behind tubal, with vocal resonance." Pretty rapid emaciation and occasional profuse perspirations towards morning ensued. These symptoms, taken in connection with the persistent cough, great dyspnœa, the physical signs and a strongly suspected hereditary tendency to tuberculosis, (not only the mother of the patient, but two of *her* brothers and two of *his* paternal uncles having died of consumption), induced his physicians to believe that a rapid development of tubercles had taken place.

On the 10th of January, 1867, forty-one days from the date of the initial attack, the present writer, being invited by letter to see the patient, spent a night and part of a day at his house. While finding abundant cause to apprehend the supervention of tubercles, in the evident vulnerability of the patient's system, both inherited and

acquired, we decidedly inclined to the opinion that there was as yet no adequate evidence of such complication, and, resting on this diagnosis, we ventured to express a somewhat confident belief, that a good measure of health might be obtained by the prolonged use of cod-liver oil, alcoholic stimulants and nourishing diet.

On the 1st of February, the patient is reported to be "improving somewhat; appetite good; sleeps well; perspires at night; has little fever, pulse being about 100; cough persistent, but not troublesome or hard; expectoration easy, but purulent; auscultation, which hitherto has shown bronchial respiration without râles, now reveals mucous râles and pectoriloquy in right luug posteriorly; *left lung presents some bronchial respiration in the sub-clavicular region.*" This last statement, had it been confirmed by subsequent examinations, would have been highly significant as to the probable development of tubercles in the apex of the left lung, but either the very careful and intelligent physician, who made the examination and reported the case, was in error as to this point or the solidification soon disappeared, for, at a somewhat later date, the respiration in that part of the lung is reported as normal or slightly puerile.

About this time, or a little later, Fougera's iodinized cod-liver oil was substituted for the ordinary article. The patient was much pleased with this preparation and ascribes a large part of his subsequent improvement to its use. This gradual improvement was, however, not without fluctuations, especially occasional attacks of severe dyspnœa and very troublesome cough.

May 9th, it is reported that the patient "seems to be gradually and slowly recovering; he has walked to and about town and back to his residence on the summit of a very steep and high hill; he still coughs and expectorates a little; is more fleshy than before his at-

tack, having taken Fougera's cod-liver oil for nearly three months, with iron and strychnia, with the most notable benefit." In a short time he resumed his professional duties, within the corporate limits of the town.

After an interval of more than a year, having meanwhile removed to a town distant thirty miles from his previous residence, he writes, on the 27th of July of the current year, that "there has been for the past fifteen months a very slow but still continuous and perceptible improvement of the general health, accompanied by and evidently dependent upon increased respiratory power. My cough now, in dry weather, is very slight, only amounting to one paroxysm in the morning while dressing, but in damp weather it annoys me quite considerably. My sleep has been always undisturbed by this cause. Occasionally I suffer pain at the top of each side of the chest, chiefly, I suppose, of a neuralgic character. My voice has almost regained its natural tone, but there is still some thickening and irritation of the vocal cords, requiring me to clear my throat frequently. I can now walk several miles a day without fatigue, but cannot walk up hill and talk at the same time unless I walk very slowly. Dr. B. ausculted my chest last March and was then of opinion that some solidification still remained at the base of the right lung. During the last fall and winter I took Fougera's oil and used counter-irritation with apparent benefit. So far as I am able to judge, I shall begin our next session under mueh better auspices, as to my physical condition, than the last."

On the whole, this case conforms very closely to a condensed description of the class to which it belongs, given by Niemeyer. According to him, the rare termination of a croupal pneumonia in caseous infiltration and phthisis is to be feared, when, at the end of the first or at the

beginning of the second week of the disease, the fever does not cease; when there is considerable evening exacerbation and towards morning a remission of the fever, with copious perspiration; when dullness on percussion continues, and over the same extent there are for some time consonating mucous râles, and when a considerable quantity of muco-purulent sputa is expectorated."

While it is certainly possible that tubercles may be eventually developed where, as in the case of Dr. M., there is reason to suspect a strong hereditary influence, it is certain that thus far his condition has been one of chronic pneumonia simulating tubercular phthisis.

During the late war, it was exceedingly common to see patients, some of whom had suffered an attack of acute pneumonia while others had never been confined to bed, walking about the wards and grounds of the hospitals and exhibiting evidences of chronic solidification of a portion of a lung, with considerable emaciation and debility. They were generally regarded as "consumptives" and would have been discharged from service had not the policy of the Confederate government at the time preferred long furloughs, to be renewed when necessary, to absolute discharge from service. The return to duty of many of these parties, in apparently vigorous health, led to a different interpretation of the symptoms. We are now convinced that most of these cases were examples of chronic interstitial pneumonia.

In view of the foregoing facts and especially of the facts cited by Niemeyer in his "Clinical Lectures on Pulmonary Phthisis," of which we propose to give an analysis in conclusion of this article, we feel warranted in affirming that chronic pneumonia, especially the catarrhal variety, the effect of neglected colds, is a not uncommon affection and that it may readily be mistaken for tubercular phthisis, being in point of fact a wasting

disease, which, though curable by appropriate treatment, is yet liable to lead to irreparable destruction of the pulmonary tissue, even when it is not followed by the development of tubercles, which last is a not uncommon complication.

Niemeyer, whose Clinical Lectures* will repay careful study, M. Barth to the contrary notwithstanding, recognizes three forms of inflammation of the lungs: 1. *Croupal pneumonia* (common acute pneumonia). It represents the same process in the alveoli of the lungs, which, in ordinary croup, takes place in the mucous membrane of the larynx. 2. *Catarrhal pneumonia* is clearly connected with the processes which we have described as laryngitis, bronchitis catarrhalis and is accompanied by increased secretion and copious formation of young cells (pus corpuscles) without an accompanying coagulating exudation into the alveoli. Both forms of inflammation deposit their exudation on the free surface, without the pulmonary tissue itself being materially disturbed in its nutrition. 3. The *third* form of pneumonia, the *interstitial*, depends, on the contrary, on an inflammation which concerns the walls of the alveoli and the connective tissue lying between the lobuli. Inasmuch as this last form, at least in man, is almost always a chronic disease, it has been designated in opposition to the previous forms, which are, as a rule, acute, as "*chronic pneumonia*," though it is to be borne in mind that both the other forms may, as we have seen, assume the chronic condition, the croupal form rarely, but the catarrhal form very frequently; and that it is this form which, according to Niemeyer, constitutes a very large proportion of the cases of pulmonary phthisis.

It has been seen that the difficulty of distinguishing

*Felix Von Niemeyer's Clinical Lectures on Pulmonary Phthisis. Translated from the second German edition by J. L. Parke, New York, 1868.

between phthisis from purely pneumonic processes (chronic pneumonia) and tubercular phthisis is considered by Andral and Graves to be nearly or quite insuperable, until the cure of the patient excludes the latter, or until the autopsy reveals the actual state of the lungs. Nearly all others teachers take the same grounds. Da Costa (Medical Diagnosis, second edition, revised, Philadelphia, 1866,) relies mainly upon the seat of tubercles in the apex and and of pneumonic consolidation in the lower lobe of a lung, but he notices two sources of fallacy. "On the one hand tubercles may, by way of exception. be seated in the lower lobe; on the other, chronic pneumonic induration may affect the apex." In point of fact, this last is quite common and some examples have been cited from Graves' Lectures, and with regard to the former it is not uncommon for tubercles to be developed secondarily in the midst of a pneumonic solidification of the lower lobe.

Niemeyer is of opinion that the three forms of pulmonary phthisis, namely (1) that in which the symptoms are occasioned, from beginning to end, by pneumonic processes; (2) that in which they become complicated at a later period with tuberculosis, and (3) that in which the disease begins with a tuberculosis may be distinguished from one another with tolerable certainty. When laryngeal, intestinal or cerebral phenomena, indicative of the prescence of tubercles in these organs, are present, the diagnosis is easy, but in their absence closer scrutiny is required. An extreme frequency of respiration, without dullness on percussion and without bronchial respiration, is suggestive of tubercular phthisis and is explained by a great number of alveoli and capillary bronchi becoming blocked up by tubercular granulations without producing such condensation of interstitial tissue as to give rise to dullness. Whenever, then, there is a marked disproportion between the extent of

dullness and the great frequency of respiration, we may suspect the existence of tubercles. In a case, reported by Niemeyer, of a stone-cutter, 51 years of age, a phthisis of several years' standing, with a moderate amount of condensation and degeneration in both apices, became eventually complicated with tuberculosis. In this case, all the ordinary symptoms, which generally render the diagnosis of tuberculosis easy, were wanting, *i. e.*, laryngeal, intestinal or cerebral phenomena. Still he was able to diagnosticate with certainty during life the commencement of a tuberculosis, from the fact that the patient's respirations numbered habitually from 48 to 54 per minute, with a pulse of 104 to 112 and a temperature varying from 100.5° to 102° F.

If the fever, loss of flesh, paleness, &c., have appeared subsequently to the cough and moderate expectoration, it is quite probable that we have to do with pneumonic processes, whereas if these symptoms have appeared coincident with the cough and dyspnœa, but yet before the expectoration had become considerable, they probably indicate tubercular phthisis. The duration of the prodromal catarrh, in the former case, varies. It happens, sometimes as early as the second or third week, that clear signs of the invasion of the alveoli and of a *phthisis incipiens* show themselves. In this category must be placed those cases in which phthisis has followed directly upon rubeola or pertusis and especially many of those cases in which phthisis is said to have begun under the form or mask of a catarrhal fever or influenza. On the other hand, a catarrh may last for months or years, becoming worse in winter, better in summer, until finally it invades the alveoli.

Niemeyer attaches little importance to "nummular" or other forms of sputa as distinctive of tubercular phthisis, since they may all exist in other pulmonary affections.

Even microscopic fragments of pulmonary tissue, elastic fibres, &c., may be and are found in the sputa of patients suffering destructive pneumonic processes without tuberculosis. Indeed, he boldly asserts that a patient who, in connection with other symptoms of pulmonary phthisis, expectorates sputa, from whose character we can infer the existence of extensive destruction of the lung, is often in less danger than a patient who is feverish, pale and thin and expectorates only tough transparent sputa.

A *hoarse* or *toneless* cough belongs to the most important symptoms of *tubercular phthisis*, or *of the complication by tuberculosis of a pulmonary phthisis, originally depending on destructive inflammatory processes.* If the cough does not become rough and toneless until an advanced stage of the phthisis, we are to suspect a consecutive tuberculosis. If it has had that character from the beginning and especially at a time when the sputa are still tough and transparent and the physical investigation discloses no considerable alterations, we can then very reasonably entertain the suspicion of a primary tuberculosis.

Niemeyer is engaged in pursuing investigations concerning the thermometric phenomena of hectic fever of phthisical patients, which are not yet finished, but he is even now prepared to affirm that in *tubercular phthisis* in its restricted sense and in a tuberculosis which has appeared secondarily in the course of a destructive chronic pneumonia, the variations between the morning and evening temperature, are, as a rule, much less considerable than those which are observed in the phthisis of chronic pneumonia. Therefore, as long as the fever is a *febris remittens*, with an almost intermittent form, the prognosis, *cæteris paribus*, is better than when the fever is continuous. Thus, the thermometer has in pulmonary phthisis a very great importance for the diagnosis and

prognosis, as well as for the treatment; indeed, Niemeyer thinks, a much greater importance than in any other disease. He shows, too, that the decrease and increase of weight correspond with the presence or absence of fever as determined by the thermometer.

Having found, at autopsies, induration and shrinking of pulmonary tissue, and cavities due to a disintegration of caseous infiltration, much more frequently than he had found tubercles, he, of course, does not regard the physical signs of catarrh affecting the apex, as necessarily indicating the first stage of pulmonary tuberculosis, but it is, indeed, a *sign* that the patient is in danger of becoming phthisical by pneumonic processes, on which tubercles may or may not be consecutively developed according to circumstances.

If the extension of dullness and bronchial respiration stand in direct proportion to the advance made by the phthisis, the prognosis is more favorable than in a case where the patient rapidly loses flesh without the extension of the dullness keeping pace with the advances made by the other morbid phenomena. It is not dullness *but a dull tympanitic* sound on percussion met with in a patient, with great frequency of respiration, cough, scanty expectoration, &c., that must awaken suspicion that the aeration is diminished and the pulmonary tissue impaired by a tuberculosis. But even this sign may be due to scattered pneumonic infiltrations.

The sinking in of the supra and infra-clavicular regions on one or both sides, which has hitherto played so great a part in the symptomatology of pulmonary tuberculosis, as well as the lowered situation of the upper lobe of the lung, signify neither a tuberculosis nor a caseous infiltration, nor a disintegration of the pulmonary parenchyma, but always and only a diminution of the apex of the lung from induration and contraction. The diminished respir-

atory movement of the superior portions of the thorax has, when it corresponds with the regions that are sunken in, the same signification.

There are several possible terminations or ulterior dispositions of the caseous infiltration in cases of interstitial pneumonia. . The caseous masses may at a late period become liquefied and reäbsorbed, or they may become capsulated, or the diseased portion of the lung may become indurated and contracted by the active proliferation of connective tissue, or finally destructive suppuration may occur.

The infiltrations of acute catarrhal. pneumonia sometimes undergo complete resolution, but it happens much more frequently that the infiltrated tissue undergoes a caseous metamorphosis and becomes, in a short time, disintegrated. Most cases of "galloping consumption," in which, within a few weeks, extensive destruction of the lungs occurs and the patients lost flesh rapidly, with violent fever and succumb, originate in the invasion of the alveoli of large portions of the lungs by an acute catarrh and can be designated as the termination of acute or sub-acute catarrhal pneumonia in *phthisis florida.* If the process in question has extended over an entire lobe, it is rare for subsequent reäbsorption or capsulation of the caseous mass or induration and contraction of the diseased portion of the lung to take place. And yet, it the acute catarrhal pneumonia leaves behind a caseous infiltration of small extent, the termination in induration and contraction is much more frequent. There is frequently offered an opportunity of observing patients who, after longer or shorter intervals, are again and again seized with such attacks, go through with the same fortunately, but derive from every attack an increase in the extent of dullness and of the depressed regions of the chest until they are finally carried off by a pneumonic

process of less favorable course or by a tuberculosis.

The chronic form of catarrhal pneumonia is much more frequent than the acute affection. According to Niemeyer it is "by far the most frequent form of phthisis." When a patient, with chronic bronchial catarrh, by which his general health and strength has not been diminished, loses appetite, becomes pale and thin and remarks in himself an evident decrease of strength, the suspicion should be entertained that the catarrh has invaded the alveoli and it is earnestly to be recommended, that carefnl observations regarding the temperature should be taken and repeated physical examinations be made to ascertain whether condensations exist in the lungs. This form of chronic pneumonia shows a decided tendency, under favorable external influences, to terminate in induration and contraction. But we must continually keep in mind the possibility *that a tuberculosis may be developed in the course of a pulmonary phthisis, caused by pneumonic processes*, and we must not, even in the most favorable course of a pulmonary phthisis, become too confident or make an unconditionally good prognosis.

In primary tubercular phthisis, the prodromal catarrh is absent. The fever and the "wasting away" are not deferred until the patients expectorate copious mucopurulent sputa, but, on the contrary, the tubercular development, especially when it is extensive, begins with a considerable increase in temperature and a rapid consumption of the body from the fever. If we learn from a patient that he first began to cough and expectorate *after having, for several weeks previous, rapidly grown weak, pale and thin*, we must fear that he is suffering from a tubercular phthisis. This suspicion must be still stronger if the patient has extraordinary dyspnœa and if the physical examination of the chest gives, at the com-

mencement, negative results. We need not repeat its later clinical history.

In regard to prophylaxis, in the case of persons of weak constitution, in whom there are already present evident signs of great vulnerability and a disposition to diseases resulting in the formation of caseous products, Niemeyer insists upon the detrimental effects of too close confinement to the house and the indispensable importance of spending a large portion of every day in the open air. If this be impracticable during winter in the patient's native climate, a change of residence, to such a climate as will admit of this treatment, becomes necessary.

If an acute catarrh invades the alveoli from the bronchi, presenting the symptoms heretofore ascribed to a beginning pulmonary tuberculosis, let the patient be confined strictly to bed for a time. Forbid all unnecessary speaking and coughing; cover the breast with cataplasms and at the first appearance and every repetition of pleuritic pains prescribe a local abstraction of blood by leeches or cups and we will soon be convinced that many patients become healthy, concerning whom it had hitherto been supposed that they were suffering from tuberculosis and that there was no help for them. This course of action is most earnestly to be recommended, also, *in the exacerbations which occur in the course of a chronic pulmonary phthisis under more violent febrile symptoms.*

If the fever continue in spite of these simple measures, more powerful *antipyretic* means must be employed, as fever is the chief wasting element of the disease. Among those which are in many cases successful in checking the increase in the production of heat, notwithstanding the continuation of the disease, Niemeyer gives preference to digitalis and quinine. We ourselves prefer Norwood's tincture of the veratrum viride to the digitalis. Niemeyer's formula is 1 gr. quinine sulphatis, ½ gr. digitalis

and ½ gr. opii, made into a pill and taken four times daily. The pills are suspended as soon as an evident decrease in temperature and frequency of the pulse takes place, to be returned as soon as this influence has disappeared.

With reference to dietetic regimen, it is evident that phthisical patients, wasting with a consuming fever, require a nourishment as rich and as suitable to the special indications as possible. The experimental fact that consumption of albumenoid substances increases the production of urea and the metamorphosis of the nitrogenous elements, but that, on the contrary, by the consumption of the fats, &c., the metamorphosis and combustion of the organs and tissues, which are most important for the organism, are decreased, points out the proper kind of food for consumptives and abundant clinical experience confirms the accuracy of the induction. Accordingly Niemeyer recommends rich milk and cod-liver oil, for which latter agent, however, he often substitutes extract of malt, as less nauseating and lighter for the stomach, and which, instead of the fat, contains substances which form fat in a form easily to be assimilated. "Moreover the grape cures are recommended as replacing the cod-liver oil. Under a daily consumption of three to four pounds of *sweet* grapes in Vevey, Montreux, &c., almost every one becomes in a few weeks fatter and heavier than they were before the cure, and, if the intestines were previously healthy, it is seldom the case that diarrhœa occurs."

At the close of the final lecture of the series, the author announces his conviction that against pulmonary phthisis, depending upon *primary tuberculosis*, as well as against *tuberculosis which has been developed in the course of a phthisis*, therapeutical agents are powerless and we are here directed only to a palliative treatment of the most burdensome symptoms. Antipyretic means accomplish

very little against the fever of tuberculosis. "If we have recognized that a phthisical patient is tuberculous, we do not send him to Nice, to Cairo, &c., but permit him to spend his last days among his own relations and die in his own household. This is, of course, true only of such cases in which the diagnosis of tuberculosis is completely devoid of doubt."

We cannot too earnestly recommend these lectures to the attention of readers. In our judgment, their publication will constitute an epoch in the history of modern pathology and practical medicine as important, perhaps, as that which connects itself with the name of Laënnec, who apparently did not exhaust all that could be known of pulmonary phthisis, as his fond admirers of the French school would have us believe.

ART. II.—EXTEMPORANEOUS REMARKS MADE AT THE WAYNE COUNTY (MICHIGAN) MEDICAL SOCIETY. By Z. PITCHER, M.D., Emeritus Professor of Obstetrics and the Institutes of Medicine in the University of Michigan.

The subject of the address to which we have just listened, Mr. President, is one that has engaged my attention for many years, having lived long enough to witness the changes of professional opinion, through which it has passed within the last thirty years. As an epitome of the experience of an acute and intelligent observer, I hope it will be received with favor by the members of this society, many of whom have come into the profession since whisky has been made to supersede the lancet in the treatment of specified inflammations and general febrile affections, without special regard being paid to the local blastemata formed during their progress, or particular notice being called, with a view to guide us in practice, to the character of the crasis by which the

exudations have been or may be preceded, or by which the deposits in the organic structures may have been caused.

Others, Mr. President, may accord most honor to the scientific investigator, whether, as rarely happens, he goes in advance of the practical observer in the inculcation of principle, as did Davy prior to the construction of the safety lamp, or follows in his path to explain the phenomena the other has taken cognizance of. The sphere in which I have moved attracts me strongly to the scrutinizing practitioner, believing, as I do with Victor Cousin, that "observation becomes experiment, when used in severe processes of induction." In this way have the fruits of experience, embodied in the address, been gathered, agreeing in their results with my own observations, which have reached over nearly twice the number of years covered by the author's excellent address. To its doctrines and the practical rules deduced from them, I give my cordial assent.

Here I would allow the subject to rest, trusting that the results of a correct practice will, in time, work out the problem of its own defense, but, such is the strength of my convictions that a whole generation of physicians has been carried from the landmarks of the true fathers in medicine by false teachings in pathology and consequent error in the treatment of febrile affections, that I cannot allow the subject to pass, without recalling some of the principles which lie at the foundation of a correct physico-chemistry and a recondite morbid anatomy. If we adopt, as a guide to treatment, the idea that the fluids are most especially involved in the morbid processes, we have to inquire whether that disorder is primitive or consecutive, and, if the solids are more especially implicated, we must also ask the question, are the local manifestations of disease the primitive affection? or has there

been a preëxistent anomalous crasis, whereof the localization is the secondary affection?

By considering the frequency with which the fibrin of exudation becomes the basis of pathological growths and reflecting upon the absence of fibrin in the embryo, I have been led to adopt the opinion of Zimmerman, who regarded fibrin as an excretive formation: albumen worn out by oxidation. In inflammation, this material increases rapidly in the vascular system in consequence of the check thus given to the processes of elimination. When inflammation is once set up by any one of the external causes capable of producing it, or appears as the consecutive manifestation of that condition, to which M. Andral has applied the name of hyperæmia and Mr. Eisenmann the term stasis, it will be found, to use the language of Rokitansky, "that a two-fold relation exists between inflammation and an anomalous crasis, the latter being merely the result of the inflammatory process and secondary or else preëxistent and primary and the inflammation a consecutive symptomatic phenomenon: the localization of the crasis."

Regarding the inflammation as a genus containing two distinct species and running out into numerous varieties, it becomes a matter of great practical importance to determine to which of the species the case under consideration belongs, for, in one, we shall find a fibrous, and, in the other, an albuminous exudation.

Affections of the blood are like those of the solids, divisible into primary and secondary, and suggest equally the inquiry whether the morbific agent exerts its influence upon the blood directly or through impressions made upon the nervous system. In cases exhibiting a predominance of fibrin, which have been ranged under the head of hyperinosis, due regard should also be paid to signs which mark its *quality*, a point that has been

illustrated by M. Andral, and, where there is a poverty of this material, thence arises a cluster of affections, grouped under the term of hypinosis.

There is a remarkable proneness in the fibrin crasis to coagulation, being marked in their tendency to localization, particularly in vascular organs, such as the lungs, placenta and areolar tissue. This is the condition more familiarly known as the phlogistic diathesis, a condition of vital exaltation, to which the lancet has long been successfully opposed, a practice I hope never to see abandoned.

The distinction between the pathological states expressed by the terms hyperinosis and hypinosis, and which the most accurate of the writers on morbid anatomy have made applicable to individual cases, is sometimes true of grave and prevalent epidemics. This seemed to be well understood by the English Hippocrates, Dr. Sydenham, by Dr. Benjamin Rush of our own country and more recently by Dr. Southwood Smith, of London, whose monograph on fever, considered in its adaptation to the time in which it was written, has never been excelled, and who, in a recent work on epidemics, has spoken of the change in the diathesis of diseases prevalent in the city of London between 1830 and 1860. "Every crasis may be localized in the shape of inflammation, but the product may vary with the crasis. In the one case we may have a phlogistic pneumonia, with a fibrous product, requiring copious venesection, whereas in pneumo-typhus the result may be venosity. (Hypinosis, albuminosis, cyanosis."

This change, in what has erroneously been called the *type* of disease, took place in several of the United States, to which my observation had extended, in 1838, since when venesection has not been so often necessary as before that time.

Within the last ten years I have met with many cases called by medical friends typhoid-pneumonia, which, to my comprehension, were the joint production of malaria and a typhoid diathesis, which, of course, would yield to the influence of sulphate of quinine and whisky punch. These were, in my judgment, instances of apneumatosis or the *pulmonary collapse* of Dr. Gairdner. Successful treatment in such cases, where the true pathology was not discerned by active stimulation, has caused a painful dread of blood-letting to fasten itself on the professional mind, by which it has been held in chains more than a quarter of a century. A bondage yet submitted, to for want of moral courage to face an unprofessional judgment, the offspring of quackery and popular credulity.

In March, 1867, I had under my care, in St. Mary's Hospital, seventeen cases of pulmonary phthisis. A careful study of their history disclosed the fact that three-fourths of them resulted from organic obstruction, the sequel of imperfectly cured pneumonia. This view of the origin of many cases of consumption is better illustrated by Dr. Felix Von Niemeyer than by any facts in my power to exhibit to the society, in an admirable essay on pulmonary phthisis, written by this gentleman, with a view to reform the doctrines inculcated by the distinguished Laënnec and others on the subject of tuberculosis, who, from their stand point, could see only one form of pulmonary phthisis—that is, the tubercular. Among many other proofs of his discriminating judgment, I ask permission, before closing what I have to say, to quote a few sentences from this able writer in confirmation of my private judgment, that neglected inflammation of the lungs often ends in the decay of the pulmonary tissue, where there is no existing constitutional predisposition:

"With an ordinary unprejudiced judgment, we cannot

otherwise construe most of the cases, in which previously healthy individuals, a golloping phthisis follows immediately upon a hæmorrhage, than that the blood, which has remained in the bronchi and alveoli, has led to a pneumonia, with caseous metamorphosis and subsequent degeneration of the retained blood, with the inflammatory products, as is asserted in plain words in the previous quotation from Hoffman."

By keeping in mind the changes which take place in the stasis of individuals and the modifications in the diathesis of communities produced by the pervading influence of epidemic meteorizations and holding in memory the secondary affections resulting from local inflammations imperfectly subdued, we perceive a frequently recurring necessity to resort to general and local blood-letting and find a sufficient warrant for the high appreciation of this therapeutic agent by the writer of the address and if, from his stand point, we pass more immediately into the sphere of the private practitioner, we feel fully justified in repeating his thoughts, in less elegant language, by saying, that if it was more frequently resorted to we should see fewer cases of blighted ova, fewer cases of convulsions from hyperæmia, fewer cases of puerperal fever and fewer cases of consumption following pneumonitis.

ART. III.—THE SIAMESE TWINS—CAN THEY BE SAFELY SEPARATED? By PAUL F. EVE, M.D., late Professor of Surgery, University of Nashville.

Our newspaper editors are again speculating and writing romantic articles on the above question, incited by the assertion that Messrs. Chang and Eng are about visiting Paris to find a surgeon bold enough to undertake their separation. The whole movement is but

another evidence of the lamentable ignorance of the public in medical matters and of the prurient delight which the world always takes, in wrapping everything connected with the human system in the grossest mystery. There never has been a question among medical men, either in this country or in Europe, in regard to the feasibility of the separation of these two individuals; that they are two beings having distinct segregated and perfect organizations, one from the other, as any other two individuals; that there is no physical, moral or mental unity between them, the only connection being a short cartilaginous and integumental band common to the two, the severance of which would, in all probability, be entirely harmless; that no "sensations, nervous impressions, physical, morbid, mental or nervo-mental condition" ever exhibited a "physical unity in their dual corporal existence;" that they have no unity of conceptions, impulses, thoughts, &c.; that it never was the professional opinion that the death of one of the brothers would instantly be followed by that of the other or that their separation was surrounded by fearful difficulties; and that the link now binding them together is not a means of perfect physical union by which sensations or impressions are conveyed from one to the other. There is, in fact, nothing more common between these Siamese than what would have been acquired by any other twins indissolubly united by a hempen or metallic cord and subjected, as they have ever been, to precisely similar circumstances from their birth. Indeed, the band uniting them is almost insensible, so much so that, on shipboard, they were pulled about by a rope tied to it. No pulsating vessel has ever been detected in it, though, undoubtedly, it is just here and no where else, in the centre of this cord, made up of gristle and skin and for about an inch on either side, that *there are vessels and*

nerves communicating from one to the other. Here, but nowhere else, a touch on the space indicated is felt by both. Precisely here, and here alone in the band uniting them, there is sensation and nothing else whatever common to both. If they are inclined to sleep, eat, &c., and perform the functions of life with great similarity and agree always in their tastes and habits, we must recollect that their surroundings, position, &c., have all been precisely alike. People forget, too, that one of them is irritable, the other very mild; one of them is the larger, stronger and the more intelligent and he controls the other. His slightest movement is followed by the weaker one from *necessity* and not, as is generally *supposed, from unity of will or harmonious action.* They play games, one against the other, and have quarreled just like other good brethren and more than once. While at sea, one wanted to take a cold bath, to which the other objected and the captain had to interfere to produce a reconciliation. How absurd, then, to talk of perfect consentaneous thought, action, &c., between them?

The decision given by the profession in Europe and America, thirty-eight years ago, when this case was first put on exhibition, was that the ligament of union was cartilaginous, probably a prolongation of the ensiform cartilage from the sternum, and the chief, if not the only objection to its division has been that the peritoneum might be involved in the operation. It was moreover not one demanded by surgery, for the twins had lived and might yet live for years; the question of separation, therefore, was with themselves or their guardians and not the profession. There were no disagreements, no differences among the doctors on this subject. The case was involved in no mystery and the diagnosis was easily made; the London Lancet, of 1830, even declared that it was more rare than curious. By the écraseur or knife any student,

who has attended a course of lectures, may perform this operation with success, and which, moreover, should be attempted even by any one in case of death, taking care to divide the parts nearer the one deceased. It would appear, then, that there are no good reasons why these naturalized Asiatics should have been permitted to violate the seventh commandment, by common consent, without even a rebuke.

As there exists no academy of physicians and surgeons in Paris, the Siamese may be on a wild good chase, which their family physician might have prevented, as well as the wild and fanciful speculations regarding them which are now crowding our daily papers. The scientific world too, especially those engaged in the study of medicine and surgery, as the press is kind enough to observe, may not, therefore, be "intensely interested" after all, and the public may be free again to direct their attention to something more important and better understood than the contemplated separation of Chang and Eng.

ART. IV.—HAIR IN THE BLADDER. Paper read before the Vicksburg Medical Society by P. F. WHITEHEAD, M.D.

As much as I dislike to attempt the report of a case without either notes or a clear recollection of the circumstances, I am constrained to offer the following account of a case I had under my care at the commencement of the late war:

In the year 1860, W. A., aged about 38 years, applied to me for relief from a severe cystitis stricture and the effect of the daily use of large quantities of morphia All that I remember of the case is, that he had, by his own account, been an invalid for a number of years and had, in that time, applied to several distinguished sur-

geons, one of whom, Dr. Gross, had operated for the stricture.

When I first saw him he was much emaciated, suffering great pain in the bladder and urethra. He rarely retained his urine, during the day, longer than thirty minutes at one time, and during the night was compelled to get up to void it from eight to fifteen times. His urine came away in small quantities, mixed with a muco-purulent matter, which would hang in ropes, sometimes as long as three feet and contained, as I ascertained by the use of the microscope, minute hairs of various colors. He was at this time using five or six grains of the sulphate of morphia daily.

It being the first instance of hair in the bladder that had come under my observation, I sent a specimen, stating whence it came, to Dr. J. J. Woodward, of Philadelphia, with the request that he would state its composition. He replied that it was "human hair," but that he "*would not take the word of a clergyman*" as to its source, but, as I had procured the specimen myself, I had no occasion to take "a clergyman's" word for it.

In the treatment of the case, I confined myself to an effort to build up the general health and to decrease the quantity of the opiate. The commencement of the war, which separated me from my patient, whom I have not seen since, found him very much improved, his strength and appetite better, quiet rest at night, with occasion to get up from three to five times only, and all the opiate used was a suppository of one or two grains of gum opium at bed time.

Contrary to my hopes there was a marked diminution in the quantity of hairs passed with the urine.

Since the war I wrote to my patient to ascertain his condition. He replied to my letter, but, being an illiterate man, I could learn nothing from his letter, but that

he had returned to the use of considerable quantities of morphia again.

I have seen mentioned but two similar cases. The first, by Mr. John Powell. [Phil. Trans. No. 460, p. 699.] The second was that of a woman, who was relieved by taking the hair away with an instrument. It was reported in the Lancet whilst my case was under treatment, between June, 1860, and June, 1861.

[Many examples of this interesting phenomenon are on record, hair having being found in the testicle, kidney, bladder, under the tongue, in the pia-mater, dura-mater, ovaries, etc. In some instances, the hair has been two inches long (in the dura-mater) and hair of less length has been discovered, in the regions indicated.—ED.]

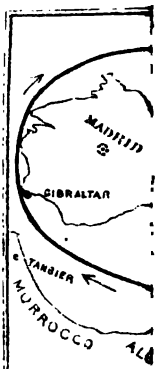
ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—ON THE ORIGIN OF CHOLERA IN HINDOOSTAN AND ITS CONVEYANCE TO EUROPE. By JOHN C. PETERS, M.D., of New York.

It is well known that the great epidemic of 1817 commenced in the delta of the Ganges, formed by the confluence of that huge river with the equally large Burrampooter. These immense rivers divide into innumerable branches and empty into the Bay of Bengal by almost as many mouths.

This land, called the Sunderbunds, lies so low, that for hundreds of miles the whole country is almost a continuous swamp, intersected by numerous lagoons, from which fetid exhalations, caused by the rapid decomposition of animal and vegetable matters, rise and hang over the land like a dense fog. The sun, seen through this noxious vapor, loses none of its power, although it looks, even at midday, as if obscured by ground glass. The



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hot, damp, fetid air seems to clog and impede the free action of the lungs and one feels instinctively that its impurities are pregnant with disease. The damp atmosphere of a hot-house, which has been shut a long time, is less oppressive and far more healthy than the normal atmosphere of the Sunderbunds. In addition, the huts of the natives are built on high artificial mounds and cattle are frequently obliged to be housed under the same roof with the family, often in the same room. It is only rarely that the mounds are large enough for the cattle to be left outside.

Still more unfortunately, throughout the whole of the year 1816, low fevers predominated throughout this entire district, because there had been no cold and dry season, as usual, and naught but mists, fogs, rains and sultry winds prevailed. The mortality in 1816 surpassed anything on record in the annals of Bengal. The English military stations wore a gloom hardly to be imagined. In many native villages the whole population was ill and the shops were shut for the want of people to attend them. The banks of the rivers were at all times covered with the dead and dying; many bodies were left unburied in the towns, and throughout Upper Bengal (near Patna?) the horned cattle were so sickly that their carcasses could be seen strewn in vast numbers in the pastures.

Common cholera morbus, which has always prevailed more or less epidemically in the lower provinces of Bengal during the hot seasons, commenced much earlier during the first six months of 1817 and was more prevalent than in former years. In addition, one of those great religious revivals, which take place among the Hindoos every twelfth year, fell upon the year 1817.

It is now well known that all junctions of streams, all places where great rivers empty into the sea or where the waters of two seas mingle, are held in great veneration by the Hindoos, who make huge pilgrimages to them at least once a year. The principal holy places in the delta of the Ganges are Sougar Island, at the mouth of the Hooghly, just below Calcutta; the islands at the mouths of the Brahmapootra, where it divides into the so-called Megna and Hattia rivers; the junction of the Ganges and Brahmapootra rivers, at or near the great city of Dacca; Kishnagar, at the junction of the Ganges and Jellinghy rivers, and only 70 miles north of Calcutta

Further up the river, the remarkable mountain Junghera rises like an island from the majestic Ganges and was formerly considered the holiest spot along the whole course of the river, so that thousands of boats and larger vessels were constantly to be seen there, as many Hindoos thought they could not die in peace without visiting it. Still further north, at the great city of Patna, a fair is held annually, which attracts a vast concourse of people to its festivities. A short distance south of Patna is Gaya, the supposed birthplace of Buddha, the scene of Vishnu's incarnations, and visited annually by vast numbers of pilgrims.

Whenever cholera is brought to, or originates at, these places, its intensity is very much increased by the filth of the innumerable pilgrims who then congregate together. Thus, the extreme point of Sougar Island, at the mouth of the Hooghly, is believed by some Hindoos to mark the junction of the Ganges with the sea, and they accordingly esteem it one of the holiest spots in Bengal, and flock thither every spring in vast numbers for the purpose of bathing and offering sacrifices. There is much reason for the belief, that this island was one of the first great centres of cholera in 1817, and that the disease was carried up the Hooghly both to Calcutta and Jessore, although both of these cities are always filthy enough to generate cholera within their own limits. At least, it is now well known that the disease was in Calcutta in the first week in August, and did not reach Jessore, 100 miles to the northeast, till the 28th of the same month. But it was in Kishnagur, 70 miles north of Calcutta, in May and June, and may have been carried from there down to Calcutta, and over to Jessore, which is only 50 miles east. Again, it was in the city of Patna, 350 miles up the Ganges, as early as the 11th of July, and may have originated there, or have been brought to it from Gaya or Jenghira.

We have also to mention that large numbers of the Hindoos do not regard the Hooghly river as the true Ganges, but place the mouth of this river much farther east, towards the province of Arracan and the kingdom of Birmah and perform their pilgrimages to the islands at the mouths of the united Ganges and Brahmapootra rivers, near the great rivers Megna and Hattia. From there cholera was carried up the river to the province and city of Dacca, early in July, first appearing at Sun-

ergong, a town on the banks of the great river Megna; thence proceeding north, visiting the ghauts, public ferries and grain markets in its way. From Dacca, it was carried northeast to Sylhet, by the 17th of August and reached Rungpore, high up the Brahmapootra river, towards Thibet and the western part of China, by the 15th of October.

From the united mouths of the Ganges, Burrampooter and Megna rivers, it was also carried far around the eastern Bay of Bengal to the city of Chittagong, by the 23d of August, and from thence down to Arracan, to Rangoon in the Burman Empire and to Bankok in Siam.

Hence we can readily agree with James Johnson, that "there are facts more than sufficient to show the fallacy of every theory which attempts to derive the disease from any one local source or to trace it to any one particular spot as the centre from which alone it was emitted to the surrounding country." The facts prove, without the possibility of dispute, that it broke out at very remote places at nearly one and the same time, or at great distances at such intervals of time, as to establish the impossibility of the pestilential virus having originated at any one place exclusively. James Johnson says, "it is clear to demonstration that it did not originate ni Jessore alone on August 28th. On the contrary, there is as good, and indeed better, reason to suppose that it was carried to Jessore, which was merely the first place that was distinctly heard from. Thus, there is little doubt that it visited some spots of the town of Calcutta and suburbs as early as the beginning of August; that it daily gained ground and before the end of the month had widely spread its ravages."

The great religious festivals in Hindoostan take place, some in February and March, others in April of every year. It is enough to say that epidemic cholera evidently broke out in May or June, 1817, soon after these festivals, and after seasons remarkable for irregularity and a preceding year distinguished for epidemic sickness and mortality. Near a sacred and filthy river it was born and at the most sacred and filthy spots on this river in the Delta of the Ganges. For rivers and filth it has ever subsequently testified a strong regard, especially for the large and dirty towns on such rivers and for the centres of commerce, business fairs and religious festivals.

From Patna the disease passed up the Ganges to the holy city of Benares and from there to Allahabad, the city of God. The latter city is almost wholly given up to idolatry and has ever been celebrated for the pilgrimages of pious Hindoos, attracted to a spot blessed by the junction of two sacred rivers, the Ganges and Jumna. It is esteemed holy by all castes, who annually repair in crowds to bathe themselves in the united streams. In former and more barbarous times, the junction of the Ganges and Jumna was the scene of fearful human sacrifices every year.

We have seen that cholera has always followed the routes to and from sacred rivers and places; but these are so numerous in Lower Bengal that its course seemed for a long time both confused and erratic. At Allahabad, which it either reached in March, 1817, or broke out spontaneously just after the great festival, which always takes place in February, even that staunch anti-contagionist, Dr. James Johnson, of the Medico-Chirurgical Review, is obliged to admit that "the epidemic began clearly to show one of its most striking peculiarities, which subsequently characterized its march. It no longer seemed to push its influence without distinction or apparent choice in all directions and throughout every tract coming in its way, but began to affect particular lines and to fix itself in particular divisions of the country, wholly restricting itself for the time to the course of those lines and divisions."

From Allahabad the disease passed north, along three great lines: first, along the river Jumna, up to the great cities of Agra and Delhi; second, along the Ganges, up towards its source; third, along the great trunk road, between the two rivers, through the towns of Coel and Meerut, directly towards Hurdwar. It is very interesting to notice that another stream of cholera was in all probability coming down from the great festival at Hurdwar, as the Bengal report says: "It is very curious that Muttra, situated considerably higher up the river Jumna than Delhi and Agra, should have had the disease in the beginning of June, whilst the latter place was not visited till the 1st of July. As the Punjaub, or extreme north-western province of Hindoostan, did not fall into the possession of the British till many years later, the progress of this epidemic could not be traced farther to the north. All the subsequent pestilences have been.

Along the whole line of the northern boundary of Hindoostan, for the distance of over one thousand miles, there is only one break or pass through the Himalaya Mountains and this occurs at the town of Attock, where the Cabul river makes its junction with the river Indus.

Of course the only line of travel and commerce running between Hindoostan and Central Asia, also passes through the town Attock, and from thence to the northwest along the banks of the Cabul river, to the cities of Peshawur, Jelalabad and Cabul. This has also always been the course of the lines of conquest and invasion of India, from the times of the Assyrians, under Queen Semiramis, two thousand years B. C.; of the Greeks, under Alexander the Great, three hundred and fifty years B. C.; of the Tartars and Mogul Tartars under Tamerlane, Timour the Tartar and Mahmoud; of the Persians under Nadir Shah, and finally, of the Affghans, under numerous leaders.

The sides of the road between Attock and Cabul are convered for many miles with the graves and tombs of these invaders and marauders, for the armies of all these nations have always marched along the road from Cabul to Peshawur and crossed the river Indus at Attock, and from thence have penetrated down into Hindoostan.

This is also, of course, the principal road by which cholera escapes from Hindoostan and is carried to Central Asia, Persia, Russia, &c., for cholera is not blown over the tops of the Himalaya Mountains, but marches through the mountain passes in company with numerous caravans of traders and pilgrims. In fact, the line of caravan travel from Attock to Cabul is sometimes so thickly strewn with cholera corpses that the camels have to tread upon or stumble over them, for as many as three hundred out of one thousand have been known to perish on one trip. But the bodies of the rich are partially embalmed, placed upon camels and brought on in the extreme rear of the line to their own homes. Sometimes over one hundred camels are employed in carrying the rich dead of one caravan and their presence is evidenced to the sense of smell as well as that of sight. Eight thousand men, ten thousand oxen-transport and thirty thousand camels are employed in this traffic.

Neither need cholera be always carried up from Lahore, Calcutta or Bombay in order to reach Attock, Peshawur, Cabul and Central Asia, for there is a great nursery of

the disease in the northern portion of Hindoostan, at the foot of the Himalaya Mountains, viz: at Hurdwar, which marks the spot where the sacred Ganges emerges from the mountains and, from being a tiny stream, becomes a river. In fact, the largest of all the Indian festivals and fairs is held at Hurdwar every year at the time of the vernal equinox, viz: early in April, when at least two or three hundred thousand pilgrims and merchants always assemble there. But every twelfth year, which is particularly holy, as many as one a half to two millions of devotees and traders are often crowded together. This festival is not only the focus for the produce of all India, from Calcutta in the southeast and Bombay in the southwest and all the intermediate cities and provinces, but merchants and pilgrims also hasten there from Cabul, Affghanistan, Independent Tartary, Central Asia, Persia and Arabia. As a matter of course, cholera is often brought to Hurdwar, often originates there and is frequently carried away from it. In fact, we are told by many authorities that, as far back as 1783, over one and a half millions of devotees assembled at Hurdwar to celebrate a religious festival of peculiar sanctity and there, in eight days, more than twenty thousand of them died of cholera. Twice twelve years subsequently, viz: in 1807, nearly the same thing occurred, and again last year, viz: in 1867, or seven times twelve years after the great epidemic of 1783. At least the London Lancet, of July, 1867, tells us, "that there never was, perhaps, a more forcible illustration of the doctrine, that cholera travels along the lines of human intercourse, than that supplied by recent occurrences in April, May and June, 1867, at Hurdwar. One of those well-known great native gatherings took place; cholera appeared; the vast assemblage broke up; the people dispersed towards their homes and spread the disease along the whole line of their route. From Hurdwar, as a centre, did the disorder radiate outwards in the diverging lines taken by these natives."

But we will confine our attention to the progress of cholera towards the northwest, through the Punjaub, or extreme northwestern province of Hindoostan, to Peshawur, the border town or advanced post of all the British possessions in India, and from thence to Cabul and Central Asia. The English now have ten thousand white troops stationed on the grand trunk road between

Hurdwar and Peshawur, and, despite of every precaution to keep them out of the English military posts, some of these pilgrims managed, in July last, to get into the bazaar at Umballa, only twenty miles northwest of Hurdwar, and introduced the cholera among the troops there. From thence the disease was carried due northwest to the great towns of Lodiana and Lahore and from thence to Attock and Peshawur, and from thence to Cabul, Persia and Central Asia. At Peshawur, ten per cent. of the English soldiers were attacked and fifty-eight per cent. of these died of cholera in June and July, 1867. Considerable ingenuity has been exhibited by nature and art to render Peshawur a favorite haunt of cholera. It is situated in an extensive valley and the military cantonments are placed near a large marsh. Artificial irrigation and sewerage are carried on by means of open drains and the hospitals and barracks are not only conveniently placed near the largest and dirtiest of these ditches, but also on very low ground, considerably beneath the bed of the ditch, so that there is a leakage and soakage of filthy fluids into the basement stories of these buildings.

The first great town to the northwest, over the borders of the British possessions in India, is Cabul. This city is the grand centre of the trade between Russia, Persia and Central Asia, on the one side, and with India on the other. In fact, it is the southern terminus of the Russian commerce with Hindoostan, for English interests and jealousies have never allowed it to penetrate further, although, during the continuance of the continental system of embargo against England by the First Napoleon, Russia was entirely supplied by English goods carried around the Cape of Good Hope, up through Hindoostan and from thence to Cabul and Central Asia. This, of course, led to a great system of return trade from Russia with the Asiatic tribes and India, and the city of Cabul has long been the theatre of the commercial and political rivalry of Russia and England. Up to the present time the industry and trade of Russia have been masters of the situation, for the Russian manufacturers, although less perfect, are also less dear, and better adapted to the barbaric tastes of the Asiatic tribes. No less than thirty-six different articles of purely Russian manufacture are now regularly brought down to Cabul from the Russian towns of Astrakhan and Orenburg, through the Central Asiatic towns of Khiva, Bokhara and Balk, and ten of

them are carried on into Hindooston, together with the productions of Cabul. On the other hand, sixty-four Hindoostanee and English articles of trade are sent up from India to Cabul and eleven other articles are sent over from Affghanistan. It is scarcely necessary to add that the major part of this traffic takes place through the border towns of Peshawur and Attock. Although Cabul is called "the city of a hundred thousand gardens," parts of it are well adapted to breed and multiply cholera, for many of the small streets which branch from the main ones are built over and form low dark tunnels, containing every offensive thing. No drains having been contrived to carry off the rain which falls within the walls, it collects and stagnates in ponds, which are dug in different parts of the city. The residents cast off the refuse of their houses into the streets and dead cats and dogs are commonly seen lying upon heaps of the vilest filth and dead horses, surrounded by bloated dogs, occasionally pollute the air for many days together.

The other route passes northwest from Cabul to Balk and from thence to Bokhara and Khiva. From the latter place one stream of trade and travel crosses the Caspian Sea to Astrakhan; the other passes up between the Aral and Caspian Seas to Orenburg, on the Ural river, the great border town of Russia.

To return to Allahabad. We find that the great province of the Bundelcund lies due south of this city; and the great war against the Mahrattas was being conducted by the Marquis of Hastings with 90,000 men, in the year 1817; 10,000 natives had already died in the city of Allahabad, when, on the 6th, 7th or 8th of November it made its appearance in the army. "After creeping about in its wonted insidious manner for several days among the lower classes of camp-followers, it, as it were, in an instant gained fresh vigor and at once burst forth with irresistible violence in every direction. The natives, thinking their only safety lay in flight from the army, now began to desert in great numbers; and the highways and fields, for many miles around, were strewed with the bodies of those who had left the camp with the disease upon them and speedily sunk under its exhausting effects. The line of march of the army presented a most deplorable spectacle. Although most, even of the ammunition carts, were used as ambulances, the sick were soon too numerous to be moved and the

greater part were left behind to die unattended. Many who left the carts, pressed by the sudden calls of the disease, were unable to rise again and were abandoned. Hundreds dropped down during every subsequent day's advance and covered the roads with the dead and dying. The places of encampment and the lines of march presented the appearance of a field of battle and the track of an army retreating under every circumstance of defeat and discomfiture. In less than two weeks nearly 9000 men succumbed to the pestilence."

While this dreadful havoc was going on, a subsidiary force was sent up from Bombay, through the towns of Poonah, Seroor, Jaulnah, Ahmednugger and Aurungabad, to the great city of Nagpore, lying due south of Allahabad and the Bundelcunds. The disease reached Nagpore from the Marquis of Hastings' army, through the cities of Huttah and Jubbelpore, pursuing a due southerly course; and the subsidiary force, coming north under Col. Adams, afforded the first striking instance of a large body of men coming into the pestilential medium, and, from the previous enjoyment of perfect health, falling at once into a wretched state of sickness. When nine miles south of Nagpore, it had hardly learnt that the epidemic was raging in the city and vicinity, when it began itself to experience its unwelcome visits and 70 cases and 20 deaths occurred on the first day. Many were attacked while loitering for water at the neighboring contaminated rivulets and some were brought in expiring, others dead.

From Nagpore it passed down to Jaulnah, the next town in order towards Bombay in the southwest. The course of the disease had long been so regular along the line of much-traveled roads and the marches of troops that the Bombay authorities concluded "when it showed itself at Jualnah it was pretty clear that it would reach Bombay," although many hundred miles off. It was well known that it had "reached Jubbelpore, north of Nagpore, by the 9th of April. It arrived in Nagpore in May; was carried down to Jaulnah in June by a detachment of troops that was marching from Nagpore to Jaulnah and Aurungabad; then passing over a space of 220 miles, visiting Aurungabad and Ahmednugger in its course, it reached Seroor, 150 miles farther to the southwest, on the 18th or 19th of July. It appeared at Poonah towards the latter end of the same month. On

the 6th of August it broke out with great violence at Panwell, a considerable village on the main line of communication between Poonah and Bombay and distant about 20 miles, and on the 9th or 10th of the same month the first case in Bombay occurred in a man who had arrived from Panwell the same day. The disease could be traced as if creeping along from town to town, village to village and from place to place, by the arrival of people affected with the disease, from places where the disease was known to prevail."

Cholera prevailed severely, in 1818 and 1819, in Bombay and then moderately for several years, but in 1821 it broke out again in its most mortal and malignant form. Then 800 British troops, under Capt. Thompson, were sent to the Island of Kishme, at the entrance of the Persian Gulf, and from there sent in the rear of Muscat to coöperate with the Iman of that place, but they were massacred by the Bedouins, so that only 150 escaped back to the city; but 3000 more troops were sent from Bombay, under Sir Lionel Smith, and cholera was introduced by them to Muscat and carried up the Persian Gulf to Bushire and Bassorah, the only ports of any importance on that sheet of water."

Bushire is not only the principal but the only port of Central Persia and the communication with Shiraz is incessant. Many writers say that it was transported by travelers from the former to the latter place and 6000 persons died of it in eighteen days. From Shiraz it was carried to Yedz and Teheran and from there to Resht, at the foot of the Caspian Sea, and from there to Astrakhan.

Teheran has always been a great centre for the distribution of the disease. It was carried both from Teheran and Ispahan to Kasbin, in July, 1822, to Tauris in September, and extended immediately to Erzeroum and from there to Trebisond on the Black Sea.

Bassorah is, also, the principal and only port at the head of the Persian Gulf. Cholera appeared there with extraordinary violence in 1821, as from 15,000 to 18,000 persons died in eighteen days. From this city it was carried by boats and caravans up the river Tigris to the great city of Bagdad, which became infected, together with the surrounding country. A Persian army at this time menaced Bagdad and defeated the Turkish force which was collected for its defense, but a few days after the victory the Prince Royal of Persia saw his army de-

vasted by the epidemic and recoiled before this new enemy, and carried the disease into the centre of Persia from this new direction. He lost 2000 soldiers in one march, and, when the army reached Kasbin and Tauris, from 30 to 40 were dying each day.

Thus cholera was introduced into Tauris both from Teheran, Ispahan and Bagdad, and one-half of the whole population, or 4800 persons, died in 25 days.

From Tauris, the disease was carried up between the Black and Caspian Seas to Tiflis and again to Astrakhan, where it had already arrived from Teheran and Resht.

From Bassorah, the epidemic also extended up to Aleppo and Damascus, near the Mediterranean coast.

Every successive epidemic of cholera has always been carried from Bombay up the Persian Gulf and thus reaches the Mediterranean, Black and Caspian Seas.

Trebisond is the only port at the southeastern end of the Black Sea, as the whole eastern shore is shut in by high mountains. The trade and travel of Persia to the Black Sea must go there and cholera always follows in their train. From Trebisond the disease has frequently been carried both to Odessa and Constantinople. This was the case in 1830, and, notably so, in 1847, when the first case in Constantinople occurred in a passenger from a ship just arrived from Trebisond, where cholera and cholerine prevailed. In 1854 and 1865, the disease reached Constantinople first and was carried from there to Trebisond.

From Odessa, the disease has repeatedly been carried west to Vienna and thus distributed to South Germany.

It is well known how often cholera has been carried up the river Volga to Moscow and from thence distributed to Riga, the principal Russian port on the Baltic and to St. Petersburg. It is, also, well known how often the little Moravian town of Sarepta has escaped the disease, in consequence of strict quarantine and great cleanliness. Five epidemics of cholera have passed by it and none has ever entered its streets, although it is situated in the most dangerous place imaginable, viz.: near the great elbow which the river Volga makes towards the west and approaches very near the river Don, which makes an equally large curve towards the east, so that the two great rivers touch each other very nearly. The trade and travel between the Don and Volga are very great at this spot and the disease is always carried over from the

Volga to the Don at this place, yet Sarepta always escapes. In 1830 over 40,000 Don Cossacks died in the small corner embraced by the lower ends of these two rivers, yet Sarepta saved herself.

In 1831 a great Polish insurrection took place and many battles were fought in the neighborhood of Warsaw. Don Cossacks carried the disease through Kiew to Warsaw; another stream of cholera came up from Odessa, and a third was conveyed from Moscow, through Smolensk to the rear of Warsaw, and carried down the river Vistula to Danzig, on the Baltic. While many precautions were being taken at Danzig to prevent infection from Riga, the disease slipped in at the back door. From Warsaw, the epidemic spread west through Posen to Berlin, and from thence to Hamburg, and from there to London.

While Vienna was surrounded with a triple cordon of troops, to prevent cholera reaching it from Warsaw and Cracow in the north, it slipped in from Odessa in the east.

To return to India, we find that Bombay not only forwards cholera up the Persian Gulf, but also up the Red Sea, and notably to Jedda and Mecca. Jedda is the port of Mecca and all the pilgrims who come by water land there; its streets are crowded with Turks, Egyptians, Arabs, Persians, Affghans, Algerines, people from Tunis and Tripoli, Hindoos, Nubians, Abyssinians and negroes of every shade. Crowds of poor Hindoos litter the streets like dogs; they have performed their pilgrimage to Mecca, but are destitute of means to return home. The English consul is often obliged to give 6000 free passages on merchant vessels which sail for Bombay every autumn; yet hundreds and thousands of families live in the streets until they can obtain passages, although small brigs of only 200 tons have carried as many as 270 persons. In 1831 Jedda had 10,000 tons of shipping and as much more in large boats engaged in this pilgrim trade and soon collected together a more motley assemblage of human beings than is found on any other spot on the globe; 20,000 came from Egypt alone; 120 boats were employed in carrying those from Turkey and the Barbary States, through Suez to Jedda; the pilgrims from Abyssinia, Nubia and the interior of Africa crossed the Red Sea from the ports of Cossier, Suakin and Massuah; 4000 came from the Persian Gulf, principally from Muscat, Bushire and Bassorah; 2000 came from Malay; 3000

from Mocha and Southern Arabia. Besides all these, six great caravans came—one from Cairo and Suez, another from Damascus, Syria and Asia Minor, a third from Bassorah, a fourth from Bushire across the Persian Gulf to Bahrein and thence through Central Arabia, a fifth from Muscat and the sixth from Yemen. The cholera of 1829 was rightly supposed by the Arabs of Jedda to have been brought up by the Hindoos from India, but it was not until the whole multitude had assembled at Mecca that it had reached its utmost violence. Over 60,000 pilgrims died, and among them the Governors of Mecca and Jedda, the Pasha of the Persian caravan and many people of distinction. The dead were thrown by hundreds into large pits and the road from Mecca to Jedda was strewn with the dead and dying for weeks. The disease followed the pilgrims in their return passage up and down the Red Sea, and, notably so, to Yembo, Suez and Cairo, which were attacked consecutively, as the pilgrims arrived at them. Lieut. Wellstadt, who spent five years on the Red Sea in the English government surveying-ships, found the halting-places of the pilgrim boats covered with dead bodies and graves. This is the way the disease always reaches Suez and Cairo and from thence is carried to Alexandria on the Mediterranean coast. Alexandria is now the great centre and distributing port for the conveyance of cholera to Europe. From there it is carried to Beyrout, in Syria; to Smyrna, in Asia Minor; to Constantinople, in Turkey; to Ancona, in Italy; to Marseilles, in France; to Southampton, in England, and to Tripoli, Tunis, Algiers and Morocco, on the northern coast of Africa and the south side of the Mediterranean Sea.

We have seen how cholera is brought to Alexandria from Mecca, in the East. We will now show how it is distributed along the Mediterranean to the west. Almost all the English, French, Austrian and Italian steamships, which sail on the Mediterranean, carry pilgrims to Alexandria from Morocco, Algiers, Tunis, Tripoli, Malta, Turkey, Southern Russia, Asia Minor, etc., in time to partake in the festivities of the Kurban Bairam at Mecca, for this trade yields considerable profit at little cost. In 1863 as many as 10,000 pilgrims were conveyed in British ships alone between Alexandria and one or the other ports of Northern and Western Africa. We will record the experience of one steamer stopping at Tangier, oppo-

site to Gibraltar: "Crowds of the dusky tents of the Hadji, or pilgrims, were seen upon the beach. The next day, from dawn to sunset, large boat-loads were poured on board, with their bags of millet, cracked wheat, little cooking stoves, charcoal and their water-bags, to the number of 2000 persons. The night came on boisterously; the skies poured down torrents of rain; the burdened vessel plunged among the waves, shipping many heavy seas, till all were drenched and soaked and their provisions damaged. Above the howlings of the storm arose the piteous cries of the pilgrims, as the great seas broke over them.

"It is a point of religion for these pilgrims to carry no change of raiment with them, and added to the filth of their wet and unchanged garments, there was soon added the ordure of 2000 men, women and children kept closely packed together on deck for a fortnight, with nothing provided for their relief, but an extemporized stage of planks projecting from the vessel's side, upon which few landsmen could venture, even in moderately calm weather. The constant wash of the rain and sea alone carried away much of the filth, which, otherwise, would have been unbearable. Small-pox broke out and several deaths occurred before arrival at Malta, but passengers and sailors combined to deceive the captain, from fear that he would report it and have his ship quarantined. The deaths are comparatively few on the voyage out, but on the return passage, when all are exhausted and worn out, as many as one-third have been known to die. Then their companions push them into the sea the moment they cease to breathe, if they can do so unobserved; or else cover over their bodies and sit upon them, like bags, until a convenient opportunity occurs.

"Every evening, when the weather permitted, prayers were said and short passages from the Koran recited. First, the pilgrims stood unshod, bowing together, then dropping upon their knees, pressed their foreheads upon the deck in such lowly attitudes that it was difficult to resist the impression that every creature of them was not reverently humbling himself in the dust before his Creator. Finally, one evening, when the sun was set, every face was found intently turned in one direction and the heavens were searched by keenly peering eyes; soon, a slight thread-like arc of faintest silvery light marked the appearance of the new moon, with the arrival of which

the "*Kurban Bairam*," or *Feast of Sacrifices*, begins. Shouts, clapping of hands and the gleaming brightness of every eye announced that all had seen the sight, which marks the anniversary of the time when Abraham attempted to offer up Isaac, or, as the Mohammedans believe, his first-born, Ishmael, their great progenitor; and when a ram was miraculously supplied and sacrificed in his stead. It is the commemoration of this event which draws such crowds to Mecca every year; and, notably, every twelfth year. For at Mecca is situated the well Zem Zem, which Hagar and Ishmael found when fainting with thirst in the wilderness, and thus saved the lives of the founders of the Arab and Mohammedan races. Abraham, it is also claimed, paid annual visits to Hagar at Mecca, on this anniversary, up to the time of her death, notwithstanding the reluctance and jealousy of Sarah.

Another great route of cholera is from Bombay to Muscat, at the foot of the Persian Gulf; thence up the Gulf to Bushire; from there through Central Persia to Ispahan and Teheran and up the Caspian Sea till it reached Astrakhan, in Russia, near the mouth of the Volga. In 1823 two hundred and sixteen cases and one hundred and forty-four deaths occurred there. The Russian Government established a most rigid quarantine against Astrakhan and saved the rest of Europe. From Teheran, in Persia, near the foot of the Caspian Sea, it also follows the line of travel up between the Black and Caspian Seas, to Tabrez and Tiflis, in the Caucasus and reaches Astrakhan from this (third) direction. But the precautions of the Russian authorities again prevented this, and, from 1823 to 1829, we find European medical writers speaking of cholera as an epidemic which had passed away and expressing the hope that it would never return.

But, in 1827, cholera received a fresh impulse in Northwestern Hindoostan, and was again carried by caravans from Lahore, in the Punjaub, through the Himalaya Mountains, by way of Attock and Peshawar, to Cabul, Balk, Bokhara and Khiva, and reached Orenburg, in Russia, on the 29th of August, 1829.

About the same time, it was again carried from Bombay up the Persian Gulf and again arrived at Teheran in the northernmost part of Persia, in 1829, whence it was forwarded up the Caspian Sea to Astrakhan, by the 19th of July, 1830.

Thus Astrakhan and Orenburg, in Russia, were the first towns in Europe ever attacked by cholera, and, if it is asked why this should be, the answer is very easy.

Orenburg is situated on the Ural river, some distance above its mouth, by which it empties into the northern end of the Caspian Sea. The Ural river forms part of the boundary line between Russia and Asia, and Orenburg is built on both sides of this stream, with two separate bazaars—one European, the other Asiatic—each located on the side of the river belonging to their respective countries. The European bazaar has one hundred and eighty shops; the Asiatic four hundred and ninety-two. In fact, Orenburg is the chief emporium of the Russian trade with Central Asia, large caravans arriving yearly from Bokhara and Khiva with jewels, gold, silk, cotton, cashmere, shawls, indigo, tea and other goods to the value of over £1,500,000. Russia sends back the same amount of iron, cutlery and other manufactures. More than three thousand camels are employed in the transport of cast iron articles alone, consisting mainly of pots, kettles and water-cans. Indeed, there is no house, and even no tent, in all Central Asia, where there is not some article of Russian manufacture. The most active trade and correspondence is also kept up between the two countries, for many wealthy Asiatic merchants make constant trips to the Russian fair of Nishni Novgorod, and frequently travel on to Moscow and St. Petersburg. Orenburg is also the principal Russian military station for operations against Central Asia, for in 1829 the town had only eleven thousand inhabitants, of which number six thousand were soldiers, and in 1839 no less than twenty thousand men and ten thousand camels set out from this city on a campaign against Khiva. Hence we are not surprised to find that cholera first declared itself in the Russian garrison at Orenburg. It prevailed from the 26th of August, 1829, to the 20th of November, and about one thousand persons had the disease, out of a population of eleven thousand, but several hundreds only succumbed. It was checked by the cold weather, and by the middle of February, Russia was free of the disease.

Astrakhan is the great rival of Orenburg for the Asiatic trade. Its population is composed of Russians, Armenians, Cossacks, Tartars, Calmucks, Hindoos and the Asiatic tribes. In fact, it consists of almost all nations of Europe, Asia, and of all creeds. It has mosques for the Moham-

medans, temples for the Hindoos, as well as churches for the Christians. It has over one hundred large manufacturing establishments, extensive salt works, and flourishing fisheries on the Volga and Caspian Sea. It is likewise one of the principal naval depots, not only for the Caspian and Aral Seas, but also for many lakes and rivers of Central Asia. Numerous sailing vessels and steamers are constructed and armed at Astrakhan for the lakes and rivers of Central Asia.

Cholera was introduced into Orenburg by merchants, travelers, caravans and soldiers, but it came to Astrakhan by sailing vessels, especially from the port of Bakou, on the southwest side of the Caspian Sea. In ten days, one thousand two hundred and ninety persens were seized with cholera in Astrakhan, of whom four hundred and thirty died.

From Astrakhan it extended up the river Volga, the distance of four hundred and twenty miles, in less than a month, and is supposed to have traveled nearly 1500 miles, from Persia, in three and a half months, in order to reach Nishni Novgorod and Moscow.

It is said that many persons fled from Astrakhan, along the course of the Volga, and carried the disease with them, for, in ten different towns along this stream, the first victims were navigators of the Volga or others arriving from places where the disease had already raged. Some distance above its mouth, the Volga bends abruptly to the west and approaches the river Don, which makes an equally marked elbow towards the east, and affords a facile and favorite place of trade for the inhabitants on the two rivers. Don Cossacks visited the Volga for the purpose of trade, contracted the disease, returned to the Don, where some of them died in September, and the cholera commenced to travel down the river Don toward its mouth in the Sea of Azof and thus spread to the Black Sea, at the same time that it was ascending the Volga to Nishni Novgorod and Moscow. No less than fifty-four thousand Don Cossacks contracted the disease in 1830 and thirty-one thousand of them died. Other Cossacks were drafted in the Russian army, which was going to the Polish war, and, with this army, cholera entered the southeast corner of Poland and was carried northwest to Warsaw, from thence into Prussia. It is very significant that the little Moravian town of Sarepta is situated on the great elbow of the Volga, in the very

midst of the Don Cossack district, and has never contracted the cholera. The inhabitants are always very cleanly and always institute a most rigid quarantine against cholera.

By the 27th of August the pestilence reached Nishni Novgorod, high up on the Volga. Some say it came from Orenburg, in the East; others from Astrakhan, in the South. It probably arrived almost simultaneously from both places. The chief importance of Nishni Novgorod is derived from the world-famed fair which is held there annually and continues during the whole of July and August. It is visited by from three hundred to four hundred thousand traders and the value of the goods exhibited averages $50,000,000, of which more than one-tenth part comes from China, Persia, Central Asia and India. In fact, Indian, Persian and Chinese silks, teas and furs form some of the principal articles of Russian foreign trade, most of which reach it from Orenburg and and Astrakhan. The vessels engaged in taking cargoes in and out are so numerous that the waters of the Oka and Volga rivers, at the confluence of which Nishni Novgorod is situated, is literally crowded and choked with the mass of shipping. The number of Asiatic visitors is also so great that Mohammedan mosques and Hindoo temples are placed in company with the Russian churches within the precincts of the fair.

By the 15th of September, 1830, the cholera reached Moscow, due west of Nishni Novgorod and Orenburg, and fifty thousand persons fled the city. But up to January, 1831, nine thousand of those who were left were attacked and more than one-half of them died. Moscow is the seat of the principle Russian manufactories, of which not less than four hundred and eighty-four are in active operation. It is also a great centre of internal commerce with Riga, on the Baltic.

From Moscow it was conveyed, early in May, 1831, to Riga, and it is distinctly stated that it was brought to the headwaters of the river Duna, at the mouth of which Riga is situated, and was carried up the stream to that city. Immense alarm arose, and on June 3d no less than sixty vessels fled in haste from Riga, four of which were destined for England, especially for Sunderland, on the east coast. By October 26th, 1831, an official English report declared that three hundred and six cases and ninety-four deaths had already occurred in Sunderland,

and the first case of cholera in London occurred in the person of a man from Sunderland. From London it was carried to Dover, and over to Calais and Paris, in France. From England it was carried to Ireland, and, in the spring of 1832, vessels from Dublin and Cork conveyed the disease over the Atlantic to Quebec.

From Moscow it was also carried to St. Petersburg on the 26th of June, 1831, and Drs. Russell and Barry, of the Indian service, who had been familiar with cholera in Hindoostan, were sent by the English Government to observe the disease. A triple cordon of troops was placed around St. Petersburg to keep out the cholera; but Drs. Russell and Barry state that the first case occurred in a person who came down the river Neva, in a bark with goods from Moscow; the second in an individual who had been on board the bark upon its arrival, and the third in a soldier who had mounted guard on the boat to prevent any intercourse with the shore. From St. Petersburg it was carried down to Cronstadt, on the Baltic, and a new current of the disease was then let loose to visit Hamburg, Bremen, Denmark, Norway, Sweden and England.

It is well to add that Sunderland, which is only twenty miles from Newcastle, had over five hundred vessels engaged in the coal trade, with ports in the Baltic, in 1831; that Riga has the largest commerce of any other port in Russia, except St. Petersburg, and that Drs. Russell and Barry also state that the disease was propagated in St. Petersburg, immediately upon the arrival of several thousand passengers and boatmen, who had come from infected places in the interior of Russia or had been exposed to infection on the passage on board these vessels. Every successive epidemic of cholera has followed these great lines of travel.—[*Leavenworth Med. and Jour. and Chicago Med. Jour. and others.*

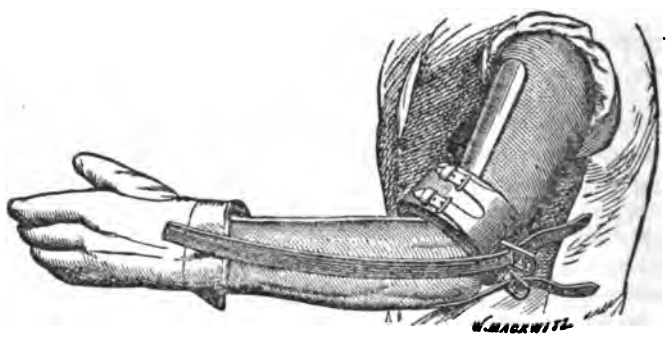
[Do these facts prove that cholera is disseminated by atmospheric currents of mysterious character and apocryphal power, or that the disease is propagated by contagion from persons and material?—ED.]

ART. II.—METHOD OF TREATING FRACTURES OF THE OLECRANON PROCESS AND HEAD OF THE HUMERUS. By E. A. CLARK, M.D., Resident Physician, St. Louis City Hospital.

FRACTURES OF THE OLECRANON.

I have found all the ordinary appliances in use for treating fractures of the olecranon so deficient in meeting the indications required, that I have been induced to devise the apparatus represented in the following woodcut, which is sufficiently simple to require but little description.

Fractures of the olecranon, as they usually occur towards the middle or base of the process, generally attended with such a degree of displacement—especially in muscular subjects—that the ordinary method of applying narrow strips of cotton cloth around the arm—both above and below the elbow—and approximating them by means of lateral strips, as recomended by Sir Astley Cooper and Amesbury, with the view of drawing down the upper fragment in apposition with the head of the ulna, and thus securing the condition most favorable for bony union, will necessarily require these bands to be so tight around the arm, at both points, as to arrest the circulation. This danger will be the more imminent in cases where there is much contusion and swelling of the soft parts, which, as might be expected, from the very nature of the violence or force required to produce this fracture, is almost always the case. The method of treatment recomended by these gentlemen is also objectionable, in that they direct that the arm be kept in the straight position.



The apparatus above represented consists of a band of

ordinary sole leather about two inches in width and of sufficient length to surround the arm, lined with cloth or chamois and well padded with cotton or hair. In order to give the band additional firmness, and also to secure it around the arm, a strip of common harness-leather is stitched upon the outside, to one end of which two small buckles are attached, while the other end, which extends about three inches beyond the band, is split or cut into two straps to correspond with and fasten into the buckels. The band is fastended around the arm above the fractured process and may be drawn to any degree of tightness necessary to bring the broken fragment down when traction is made upon it.

The same band may be used on either arm and may be adapted to an arm of any size. On the outer side of this band, and one inch apart—one on each side of the olecranon—are two buckles or staples, which should be two inches in length and three-fourths of an inch in width and clinched on the inside of the leather band, from which they project at a right angle. These buckles or staples also have three bars across them, with two tongues made to turn either way.

In applying this apparatus, the arm should be flexed at an angle of forty-five degrees and a common pasteboard splint bent at that angle placed upon its anterior surface. The leather band is then buckled over this splint, just above the fragment of the olecranon and the entire forearm is covered with a bandage to hold the anterior splint firm to the arm and thus prevent any movement of the elbow-joint, which, if allowed, would be constantly modifying the force exerted upon the fracture. A common buckskin glove is then placed upon the hand, to the anterior and posterior surfaces of which are attached two leather straps, which are to be buckled into the staples on the band. By buckling these straps over the bars at a greater or less distance from the band, and tightening them as required, we obtain the necessary amount of leverage to turn the lower edge of the band in upon the arm and push the fractured process down before it.

By making traction upon these straps, any degree of force may be exerted upon the band necessary to draw the broken fragment down and hold it in perfect apposition with the head of the ulna.

It may be objected to this method of treatment, that the arm is held in a flexed position, thus increasing the space

between the two fragments. But the advantage of this position is apparent for two reasons:

First, by flexing the arm to this extent the point of the olecranon is made more prominent, and, consequently, the band more surely adjusted,is not so apt to slip over it; while, again, the force exerted upon the band by the straps, directed at an angle of forty-five degrees from the axis of the humerus, renders the pressure still more secure above the point of the olecranon and prevents the possibility of it slipping back beneath the band.

The second reason for fixing the arm in this position is to relax the brachialis anticus muscle, the action of which, in cases where the fracture occurs low down, near the base of the olercanon, and especially in a muscular subject when the arm is held in a perfectly straight position, evidently draws the head of the ulna forward so that a portion of its fractured surface is in direct apposition with the articular surface of the lower end of the humerus; while if the detached fragment of the olecranon be forced down to its proper position it would not be in complete apposition with the upper end of the ulna, but would leave a triangular space in the articulation to be filled up by callus and thus produce more or less complete anchylosis of the joint.

This apparatus when applied as described, is in no way painful to the patient, the band being padded in the inside and the pressure exerted by it on the anterior surface of the arm bearing upon the pasteboard splint; the only other presure exercised is directly upon the olecranon and that upon such a broad surface that sloughing need not occur in any case.

I have treated but one case with this apparatus and with the folowing result:

A laboring man, aged 32 years, was admitted to hospital five days after receiving a fracture of the olecranon near its base. At the time of the admission he had an abscess as large as a hen's egg immediately over the point ot the olecranon, resulting from a contusion received when the bone was fractured. The abscess was opened before the dressing was applied, and, notwithstanding all the pressure required to hold the bones in apposition was made upon the point over the abscess, it healed quite rapidly, and in seven weeks the apparatus was removed, leaving firm, bony union in the fracture, without the least deformity or displacement; and now, three weeks since,

the patient has recovered almost perfect use of his arm.

No passive motion of the joint was allowed at any period of the treatment.

FRACTURES OF THE HEAD OF THE HUMERUS.

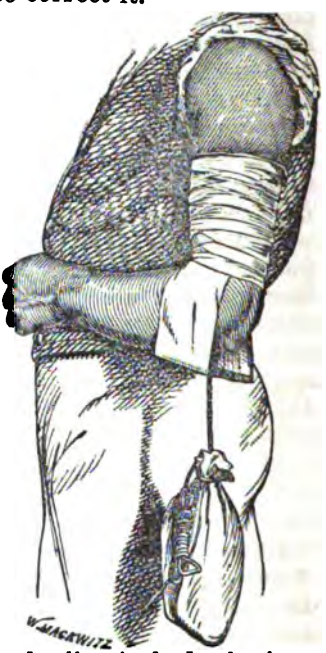
Every surgeon who has had much experience in treating fractures about the head of the humerus can testify to the great difficulty of maintaning the fragments in apposition, even with the most ingenious appliances, amongst which those of Desault, Sir A. Cooper, Fergusson, Erichsen, Welch, Richerard and Dupuytren are most generally used. The very fact that the means of treating these fractures have been changed and modified by so many distinguished surgeons, is sufficient evidence of the difficulties to be encountered in adapting any apparatus to correct the deformity, most usually found to exist in these injuries.

In speaking of fractures of the head of the humerus, I refer only to that portion of the bone above the attachment of the latissimus dorsi and pectoralis major muscles. This would embrace—external to the capsular ligament —the tubercles and surgical neck, in the latter of which fractures most frequently occur from direct violence; yet fractures not unfrequently occur through the tubercles from the same cause, and in both cases there is always more or less displacement where the fracture is complete and not impacted. Fractures of the anatomical neck are not so often attended with displacement, or shortening, but even here it is not uncommon, from the great violence required to produce the fracture, to find the capsular ligament ruptured and one or both fragments displaced. In all cases of fracture occurring outside of the capsule, where there is no impaction, there must be more or less displacement of the upper fragment, from the contraction of the muscles attached about the tubercles. It is on this account that none of the appliances in ordinary use, such as pads in the axilla and cap splints over the point of the shoulder, can be made effectual in maintaining the bones in apposition, because it is impossible to place any kind of compress in the axilla, that can be brought to bear upon the upper fragment, without producing an amount of pressure on the auxilliary vessels intolerable to the patient, while it would be a rare and peculiar fracture that could be kept in apposition where

the upper fragment and muscles attached to it were allowed to go unrestrained, even though the shaft of the humerus might be maintained in its proper axis by the use of a pad in the axilla.

Where there is shortening of the limb, as is almost invariably the case in fractures at the surgical neck, none of these appliances could have the least influence in correcting such deformity, further than that the pressure from the badges might control the contraction of the muscles.

In fracture of the anatomical neck, with laceration of the capsular ligament attended with displacement, the pad in the axilla would be likely to increase the deformity and it certainly could in no wise correct it.



The accompanying woodcut represents a method I have employed, which is not open to the above objections. The appliance consists merely of two strips of adhesive plaster about three inches in width, applied to the internal and external surface of the arm as high as the upper part of the middle third of the humerus. These strips are bound to the arm by a roller bandage, and at their lower end, beneath the point of the elbow, are attached to a cord, to which a sand-bag is attached, weighing, ordinarily, from three to four pounds.

This sand-bag, as represented in the diagram, is attached close to the point of the elbow when the patient wishes to walk about, by knotting the cord by which it is suspended, and when he lies in bed, the knot in the cord, as seen in the cut, is loosed and the cord carried beneath the bed clothing over a small pulley placed at the foot of the bed, and in this way an equal extension is constantly kept up, whether the patient be confined to his bed or is able and prefers to walk about.

When using this apparatus for treating these fractures, I apply no other dressing and entirely ignore the com-

press in the axilla as useless, if not positively injurious. The constant traction upon the muscles soon exhausts their tonicity, so that they allow the bones to fall into their natural position, while the extension being constantly in the line of the axis of the humerus, it is quite impossible that any displacement should continue, either laterally or of an angular character, or that any shortening should result.

I have, as yet, treated but one case of fracture of the surgical neck of the humerus by this method.

The patient was a stout, muscular man, aged 33 years, who had fallen some twelve feet, striking the point of the shoulder upon the ground, causing considerable contusion of the soft parts, besides the fracture, which was considerably displaced by the lower fragment projecting outward; there was also shortening to the extent of three-fourths of an inch. The patient complained of constant and severe pain at the point of fracture until the third day, when the above apparatus was applied, with the effect of relieving the pain almost instantly. At the end of seven weeks the dressing was removed and the union in the fracture found to be firm, without any displacement or shortening, and, in ten days after, the patient was discharged from the hospital, with perfect use of his arm.

Art. III.—Two cases of Nodules upon the Vocal Cords, of probable Syphilitic Origin. Read before the Boston Society for Medical Improvement, and communicated for the Boston Medical and Surgical Journal. By Henry K. Oliver, M.D.

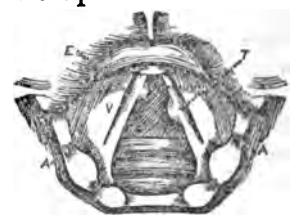
Case I. *Extreme Hoarseness of a Year's Standing; Nodule upon each Vocal Cord.*—Mr. M., an Italian, aged 38 years, came to me on the 25th of May, 1866, for extreme hoarseness of a year's standing. His history is as follows: General health always good. Two years previously he had a single chancre, followed some time afterwards by an eruption of the skin. Is not aware of having had swellings in the groin. Has had sore throat and "canker" in the mouth.

About a year subsequent to the appearance of the chancre he began to get hoarse, the high notes of the voice being first affected. This hoarseness has continued to

increase till the present time. Has employed various remedies for this symptom, but has had, as far as can be made out, no continuous treatment for the constitutional affection.

His present condition is as follows: He appears to be in perfect health. Upon examination, the inguinal glands seem to be somewhat larger than natural. On the surface of the body no appearances are seen of a venereal character, and nothing unusual is seen in the mouth or fauces, except a slight injection of the mucous membrane of the latter. No soreness of the throat is complained of; no pain on swallowing; no difficulty in breathing; but little disposition to cough, and no expectoration. Pressure over the larynx produces no pain.

On examination with the laryngoscope, a nodule was seen on each vocal cord. The one on the left cord occupied a point half way between the anterior origin of the cord and the vocal process; it had a broad base, was white and glistening, and was the shape and relative size as seen in the adjoining cut. The nodule on the right cord was more anterior, smaller and more rounded, but of the same color. When the cords were approximated in phonation, the nodules came one immediately behind the other. The mucous membrane of the cords was red, and the membrane of the whole interior of the larynx and of trachea, as far as seen, was somewhat injected.



E points to the epiglottis; A to the ary-epiglottidean fold; V lies upon the right ventricular band (false cord); T points to the nodules upon the vocal cords.

Feeling pretty confident as to the venereal character of the affection, I decided not to attempt surgical interference with the nodules, but to put the patient upon iodide of potassium, with tincture of iodine to be applied to the throat externally. In order, however, to hasten the absorption of the nodules, I determined to touch them with the solid nitrate of silver. I therefore melted a small bead upon the end of the silver probe, and seizing the moment when the glottis was closed, I touched both nodules at one thrust. Moderate spasm followed, and upon examination subsequently both nodules were seen to be tipped with a white coating.

On June 7th, I saw the patient again, when there

seemed already to be a slight change in the voice for the better. On examination, the nodules on the right cord was manifestly smaller than on the first visit; that on the right was of about the same size as before, but had its mucous covering somewhat abraded. I again touched them with the solid nitrate of silver and ordered the continuance of the treatment.

Subsequently, I saw the patient weekly, each time employing the nitrate as described. The nodules continued to decrease in size—and the voice to improve correspondingly—until July 10th, when they had almost entirely disappeared, and in their place only a slight bulging could be seen. The general injection of the mucous membrane was very slight. The voice was exceedingly improved, so much so that but little change from a natural tone was observable, except in the highest notes.

With the hope of restoring the cords to their complete normal condition, I continued the treatment, and also applied the nitrate of silver occasionally, until September 11th, when the bulging on the right cord had entirely disappeared and that upon the left was with difficulty discerned. Patient could now use his voice, even in singing the high notes, with but slight change from the healthy tone. It is probable, however, that the free edge of the cord has been permanently affected, as the highest notes, in singing, are not entirely clear.

Remarks.—Affections of the larynx as a consequence of syphilitic taint are ranged among the later manifestations of the disease. The only exception to this rule is the appearance of mucous patches in the larynx, which, according to Gerhardt, occur among the secondary symptoms. This opinion is not, however, accepted by other authorities. In the case just described, the affection of the throat seems to have been the first and only symptom of the later phase of the disease. The nodules undoubtedly consisted of an inflammatory exudation into the submucous cellular tissue, which had become more or less organized into fibrous tissue. According to Dr. Wilks, the disposition of constitutional syphilis, "in the larynx as elsewhere, is to the production of lymph, which may subsequently become a fibrous tissue."

CASE. II.—*Hoarseness dependent upon a Papule upon the right Vocal Cord.*—This occured in a male, aged 32, who came to the Massachusetts General Hospital as an outpatient in April, 1866, principally on account of an ulcer

of the leg. He, however, complained of hoarseness and was requested to come the following day for laryngoscopic examination. Before my arrival, Dr. J. Collins Warren, Surgical House-Pupil at the Hospital, made an examination and discovered a papule upon the right vocal cord.

My notes of the case have been mislaid, but, according to my recollection, the patient confessed to having, at some time, chancres with one open bubo. He did not remember having any eruption of the skin or other secondary manifestations of syphilis. Three or four months before, he noticed a pimple on outside of left leg which broke and remained open, increasing in size to the present time. Hoarseness commenced two weeks ago; first noticed it while singing; this had increased gradually. No pain or soreness in throat. On examination, a deep ulcer three-fourths of an inch in diameter, surmounting a hard infiltrated swelling, is seen in the locality above mentioned. No other manifestations of syphilitic taint are to be noticed.

The voice is moderately hoarse and the upper notes are quite unavailable. The papule upon the vocal cord is situated on the free border, at about the middle of its length. Its color is whitish; its shape is much like the nodule on the left vocal cord in Case I, though it is smaller and less prominent. The membrane of the affected cord is somewhat injected in the vicinity of the papule.

Being desirous of watching the course of the affection, an innocent gargle was ordered as a *placebo*. The patient, however, ceased to continue his visits after a week or two, during which time the papule seemed to be stationary.

During the patient's attendance at the Hospital, several of the physicians and surgeons of the institution had an opportunity of seeing the morbid appearance in the larynx.

Although the history of this case did not point so clearly as in Case I to a syphilitic taint, yet it seemed probable that this was the source both of the ulcer on the leg and of the throat affection.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES FROM ORIGINAL NUMBERS OF THE LONDON LANCET AND MEDICAL TIMES AND GAZETTE. By PROF. JAMES M. HOLLOWAY, M.D., Associate Editor.

Dr. J. Henry Bennett, having lately returned from a visit to Corsica, projected with a view to ascertaining the extent and cause of malarial influences that prevail in that island, has contributed the results of his observations to the London Lancet, August 1, 1868. He found that the lowlands along the coast were not washed by the tides, but that the swell only served to retard the flow of water at the mouths of streams. In the neighborhood of such streams malarial fevers, of the severest types, prevailed during the summer months, from the sea-level back to an altitude varying from 100 to 200 feet. The inhabitants are compelled to remove to the highlands as early as June and July and not return until October. The mountainous portions of the island furnish a most desirable residence for those invalids who cannot endure the large southern towns and who are compelled to expatriate themselves, temporarily, in order to regain health and strength. Dr. B. says, "one thing is certain, that it requires *no marsh or pond to produce malaria.* Some of the most pestilential plains I saw—plains where human beings cannot live in summer—were as healthy, as innocent looking in April and May as the banks of the Trent or the Thames. It really seems quite sufficient to produce aguish fever in a sub-tropical country, that the land should have been saturated with water, either from rain or overflow; in winter, that there should not be a good fall for drainage, and that the July heat should be reached."

Prevention and Treatment of Sun-stroke.—Dr. W. C. McLean, Prof. Military Medicine, at Netley, in the same number of the Lancet, gives his observations of this fear-

ful malady amongst the British troops. To prevent sun-stroke, the head and nape should be protected from the heat of the sun by forage caps covered with white cloth and the body attired in loose, comfortably fitting garments. Instead of alcoholic and malt beverages, the soldier or the laborer should drink *cold tea*, which is regarded as the most cooling and sustaining drink by the Indian sportsman. Those who stimulate with liquor are most liable to sun-stroke.

The most successful treatment of a person attacked is to "procure a shade, if possible, and, after stripping him, pour cold water over the head, neck and chest." He should also drink freely of cold water. The action of the cold douche is thus explained. "By this means a powerful impression is made on the cutaneous nerves, the effect of which is to set suspended respiration in motion, at first by catches and gasps, finally, in a more regular manner."

Ammonia, by inhalation, should be used cautiously and after insensibility is restored, a purgation should be given as "moderate diarrhœa favors recovery." If these means fail, a blister should be applied to the head. In the convulsive form of the disease chloroform may be inhaled.

The relief from pain in open cancer is accomplished at the Middlesex Hospital by the following application: "Half a pound of fresh stramonium leaves and two pounds of lard. Mix the bruised leaves with the lard and expose to a mild heat until the leaves become friable, then strain through flannel; the ointment thus prepared, spread on lint and the dressing changed three times a day."

Dr. Gull, in his address upon *clinical medicine* before the British Medical Association at Oxford, which address is published in full in the Medical Times and Gazette, August 8th, 1868, presents the following clinical facts in opposition to the existence of a *materies morbi* in rheumatism, and especially against the conclusion of Fuller and others that lactic or acetic acid is that special "materies morbi:"

1. Analysis of the blood in rheumatism does not show that it differs from normal blood "in respect to its acidity."

2. Acid sweating is not peculiar to rheumatism, being frequent in phlebitis and arterial embolism.

3. Acid sweating *not* usual in the worst forms of rheumatism, but *alkaline*.

4. The presence of uric acid in the urine is not peculiar to this disease, "for the urates replace urea in a large number of other morbid conditions."

5. The production of endocarditis by the injection of lactic acid into the veins of some of the lower animals proves nothing, except "that the acid named, entering the blood, may cause endocarditis and some other pathological changes simulating those of rheumatism."

Dr. C. J. B. Williams concludes a series of articles on the "nature and treatment of pulmonary consumption as exemplified in private practice," in the London Lancet of August 15, 1868. His statistics, together with those of his son, covering a period of forty years, show that under a more rational system of treatment, based upon sounder pathological knowledge, the average duration of life of consumptives, has increased from two to more than eight years; and that the average, which has yet to be made, from 1857 to 1867, will show more favorable results than any now published.

The treatment is based upon the conclusion that consumption is a disease of degeneration and decay and consequently requires tonics and nutritious food. When, however, it is ushered in with symptoms of inflammation of the bronchial mucous membrane or parenchyma of the lungs, antiphlogistics, such as the salines, blisters, cataplasms, and occasionally blood-letting are required.

Precedence is given to cod-liver oil which, given for a long time and in sufficient quantities, acts as a nutriment; it should be taken with the meals or soon after, so that it can mix and be digested with the food. Small doses of salicine, quinine or iron, given with the oil serve to strengthen the muscular system and improve the condition of the blood.

Should a bilious attack come on, a blue pill or a small dose of calomel at night and an aperient in the morning are indicated.

The hypophosphites of lime and soda, recommended by Dr. Churchill, serve to revive the action of cod-liver oil, when that remedy has been taken for a long time and has ceased to sustain the strength and increase the flesh of the patient. "The efficiency of sulphurous acid, Dr. Dewar's remedy for consumption, may depend on an influ-

ence not altogether unlike that of the hypophosphites."

The employment of remedies, by inhalation, is indicated by the presence of any affection of the larynx and trachea and "in those (cases) attended with convulsive cough or offensive expectoration." The following cheap and convenient plan for administering remedies by inhalation is recommended as a substitute for the ordinary instrument: "A quart jug of hot water, with a napkin firm over the nose down to and around the jug to confine the steam, is all that is needed. To the hot water is added the drug to be inhaled; and creasote or carbolic acid, iodine, chloroform, oil of turpentine and juice or extract of hemlock, are the articles which I have found most beneficial. A few drops of one, or of several of these combined, being put into hot water, the inhalation is practiced through both mouth and nostrils, without restraint or difficulty and may be continued for five or ten minutes every night and, if need be, repeated once or twice in the day."

"Of far more importance in the treatment of consumption, is change of air and climate."

Mr. Furneaux Jordan, in a paper read before the British Medical Association, at Oxford, recommends the painting of the scrotum on the affected side with a strong solution of argenti nitratis for the relief of acute or sub-acute orchitis or epididymitis. Gentle pressure should be made afterwards. He prefers this to the more heroic plan of plunging the bistoury into the tunica vaginalis or tunica albuginea.

Dr. A. J. Mackintosh reports to the London Lancet of August 15, 1868, a case of operation for strangulated hernia, which was followed by the formation of an artificial anus. After the fæces had passed through the artificial opening for some weeks, the patient passed a stool, *via naturale*, and on the 1st of May, 24 days after the operation, the dischasge continued to pass entirely by the rectum. It was supposed that only a portion of the calibre of the gut has sloughed and the remainder had been kept open by gradual passage of the fæces.

[NOTE.—The result in this case shows the importance of operating in even the most desperate cases.—H.]

In the London Lancet of August 15, 1868, Mr. T.

Bryant, before the Royal Medical and Chirurgical Society and Dr. Humphrey before section C., of the British Medical Associatiou, strongly recommend the *torsion of arteries* instead of the *ligature*. Their conclusions have been made after careful experiments upon the lower animals and considerable experience upon the human subject. It is important that the torsion should be carefully made and two methods are recommended by Mr. Bryant, which he designates as *free* and *limited*, "the *free* method being applicable to vessels of moderate size and even to the largest of the extremeties, *limited* tonsion being more adapted for the large and loosely connected vessels."

"In *free* torsion the end of the artery should be fixed by a pair of clasp forceps and twisted freely."

"In *limited* torsion, the artery, having been drawn out of the sheath, should be fixed transversely about three-quarters of an inch from its divided extremity by a pair of clasp-forceps and held steadily, whilst with a second pair of forceps the free end of the vessel should be twisted freely, as in the former kind."

ART. II.—ON DEATH FROM COLD. Physiological Studies upon the Effects of Congelation on the Animal Economy. By LUIGI DE CRECCHIO, Professor of Medical Jurisprudence in the Royal University of Naples. Translated from the Archives de Physiologie Normale et Pathologique. By S. H. HORNOR, M. D.

The principal conclusions arrived at by M. Crecchio, in his study of the effects of congelation upon the animal economy, are—

1st. It is impossible to fix a degree of cold, always and and absolutely mortal. The degree at which death takes place depends upon the particular and individual circumstances of the special case.

2d. Cold acts by contracting the smaller vessels and by forcing the blood accumulated in them into the larger ones, thus producing anæmia of the frozen part. Occasionally, however, and especially when the action of the cold is not continuous, the vessels dilate through loss of their contractility, and the blood they contain is arrested, and the part assumes an obscure red or bluish color.

3d. Blood freezes between a half and one degree below

zero (centigrade). Then it is of a vermillion color. Coagulated blood, when frozen immediately, loses the property of coagulation.

4th. The alteration of the blood does not in reality take place during the freezing, but during the thawing process. It does not consist in the rupture of the cell-walls, and the escape of the contents of the globules by this means; their issue takes place by exosmose, the walls of the globules remaining intact.

5th. Blood removed from the influence of the vessels, and life is altered by cold in a few seconds. If inclosed in the vessels, whether life exist or not, the alteration requires a longer time—a half-hour at least. Moreover, if two animals—the one living, the other dead—are exposed for the same period to congelation, the alteration in the blood will always be greater in the one that was dead before the experiment.

6th. The blood vessels, it would seem, have the faculty of protecting, up to a certain point, the integrity of the globules against the action of cold; for, while blood frozen immediately after its withdrawal from the vessels, becomes altered, icicles of that fluid taken from the vessels and allowed to thaw, under the microscope present the globules in the normal state.

7th. Freezing and thawing, whether they take place gradually or very rapidly, produce an alteration of the blood always identical in every respect.

8th. The degree of cold may be sufficient to produce paralysis of the part, and yet not suspend the circulation, at least in vessels of a certain calibre. The arrest of circulation in these latter, is rather the consequence of the action produced upon enervation than the direct and immediate result of the freezing.

9th. Parts frozen are no longer susceptible of electric stimulus; they are in a state of grangrene. An animal that is frozen, dies.

10th. Partial freezing is fatal, when the part frozen is not separated from the rest of the body—not because the blood altered by the cold enters the current of circulation and there causes a sort of infection, but because the materials resulting from the gangrene are absorbed and produce death.

11th. Complete or incomplete freezing kills by congestion, more or less grave, of the internal organs, or by producing stupor or paralysis of the nervous system—more frequently by the two causes combined.

12th. Cadaveric rigidity remains a long time after death from freezing.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M.D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians to the Hospital.

RHEUMATIC PARAPLEGIA; CHRONIC SOFTENING OF THE ANTERIOR COLUMNS OF THE SPINAL MARROW; MOTOR PARALYSIS; TREATMENT.

GENTLEMEN: I propose, this morning, or perhaps I should rather say, I had proposed, to bring before you several cases of paralysis of the lower extremities—paraplegia in other words. In one of these cases there is a complication of catarrh of the bladder from which the patient is now suffering a good deal and I am unwilling to have him carried through the cold passages into the amphitheatre. It will be sufficient for me to read the history of his case. I do so because it is one of two cases, probably of the same nature, one of which we shall exhibit to you; the third case is of a different kind.

Rheumatic Paraplegia.—Thomas D., white, single; born in England, 38 years of age; a boatman, farm hand and laborer in a lumber yard, Habits temperate. Previous health good. While employed on board a boat at one of the city wharves he took cold, about the middle of December last. Was obliged to stay at home, in consequence, for three or four days, during which time he experienced pain in the small of the back, extending to the front of the body. The pain gradually diminished and he appeared to be recovering, when, one day, he felt a

pricking and spasmodic sensation in the skin on the outside of both thighs, and had a strong desire to urinate, which he was unable to gratify; this latter symptom recurred after a short interval and he was then equally unsuccesstul in urinating. As he attempted to return to bed after making this attempt, he found that both his legs gave way under him and he would have fallen but for his catching at a bed post. He managed to drag himself into bed, where he remained until the next day; he was then able to sit on a chair, but not to stand. On the same day he was brought to the hospital.

After his admission it was found that the patient had lost the power to move the right leg entirely and he retained very little power over the left. He could perceive tickling of the left foot, but not of the right. Sensibility was entirely lost in the right leg and upon the skin of the buttocks on both sides and down the right thigh, as far as its lower third. He complains of feeling as if a hoop or cord were tightened around him just above the hips, below which line sensation and motion are impaired. At first he suffered severe pain in the lower part of the left leg, but this sensation has become very much less severe. There is retention of urine and pain in the bladder, which have come on since the paralysis. The urine is also ammoniacal.

I have, in reading these notes, laid a stress upon what the patient describes as the sensation of a hoop or band drawn tightly around the waist. I suppose if that symptom has been described in the same language by one person, it has been by thousands affected in just the same way as this patient is; it is, therefore, and is regarded by all who have been in the habit of studying spinal affections, as characteristic of pressure or of a serious lesion affecting the lower part or lumbar portion of the spinal cord. In acute softening of the spinal cord, in pressure by an apoplectic clot, in pressure by a displaced vertebra, by a tumor finding its way suddenly into the vertebral canal, in all these and similar cases, that is to say, whenever the function of the spinal marrow, at that particular place is seriously interfered with by mechanical causes,

whether internal or external to the cord, then this sensation is complained of, the sensation of a tight cord around the body.

In the case before you, the cause of the attack was cold. The patient was well, so far as any affection of this kind was concerned, up to the time of his exposure to cold and immediately afterwards he began to suffer from these symptoms, which then went on rapidly increasing. You will notice that they are accompanied not only by the sensation we have just alluded to, but with pain, followed by loss of power in the lower limbs, which was more marked in the right than in the left. Not only so, but after a time, there was loss of sensibility also. In other words, it is very evident that some cause acting upon the lower part of the spinal marrow has been interfering with its functions, at first slightly, afterwards more decidedly, and it continues up to the present time to do so.

Now, the question is, what is the nature of this change? The first probability is that the man having evidently got his attack by exposure to cold, his affection is an acute inflammatory, or, as I prefer to call it, a rheumatic affection of the spinal membranes. Why rheumatic? For the reason that no other kind of inflammation produced by exposure to the cold alone, can affect the spinal cord and membranes. But rheumatism is peculiarly liable to attack such tissues as surround the spinal cord. You know how abundant the fibrous tissue is in the dura mater, in the lining membrane of the canal, in the ligaments which bind the vertebræ together; in fact, an immense quantity of fibrous tissue is collected there and the only wonder is that rheumatic affections involving it are not very much more frequent. The most probable reason why they are not is, that these fibrous tissues are covered by the thick muscles which lie upon the back

and serve to protect the spinal column from the direct influence of cold. However this may be, it happens sometimes that the membranes of the spinal cord do suffer from what must be called rheumatic inflammation. Now, rheumatic inflammation implies swelling of the membranes, increased vascularity of them, but not, you will remember, those plastic exudations which occur in other forms of so-called inflammation. You never have plastic exudation as the result of pure rheumatism, nor do you have it in this case. A congestion and a slow thickening of the spinal membranes are supposed to exist, and are found in some cases after death to have existed in such instances. In this particular case, it is very evident that the thickening or the congestion, the latter probably, must have been very great to excite so much pain as it did at first and, afterwards, to cause so great a loss of power.

I was going to make a remark, which, however, could not be strictly in place, in connection with this case, to call your attention to the fact that in inflammation of the bladder, catarrh of the bladder as it is generally called, paralysis of the lower limbs very frequently occurs. It is of a kind which is called inhibitory or reflex paralysis, its mode of production being in this wise: the irritation of the interior surface of the bladder produces such an effect upon the nerves, which supply it, that they become irritated and the blood vessels of the spinal cord contracted; the supply of blood to it is, therefore, more or less diminished and consequently its function is impaired. I thought it possible that there might be something of the kind here, and I am not quite sure that there is not. In the commencement, as you have heard, there were symptoms of irritation of the bladder, and it is possible that this irritation may have produced an interference with the functions of the spinal marrow, which has, in

its turn, aggravated the paralysis already existing, although that paralysis was not the primary cause of the condition of the bladder.

Case II. *Rheumatic Paraplegia.*—As I mentioned to you, gentlemen, this case appears to me to be essentially of the same kind as that which I have just detailed, although there is an element in it which renders it very different in some of its aspects.

Rheumatic Paraplegia.—Benjamin F. S., æt 34; white; single; temperate; occupied in various literary pursuits, and as hospital steward and acting assistant surgeon during the late war. General health was always good; has no tendency to hereditary disease; both of his parents are still living at an advanced age.

About nine years ago, while leaning against the back of a bench on which he was sitting, he felt a projection of the spine about the middle of the dorsal region. It was then very small—"as large as a pea." The projection and spinal curvature gradually increased from year to year, but caused no pain or other inconvenience. Two years ago, at the commencement of winter, he felt a pain in *the small* of the back, with a sense of weakness there; but it soon disappeared and did not return. About a month before Christmas, 1867, he was much exposed to inclement weather while attending to a book-stand at a street corner; he then took cold, which seemed to settle in the small of the back and hips and he suffered much from a constant sense of coldness and inability to get warm. The lower limbs rapidly lost their power and he came to the hospital January 9th.

On admission his condition was as follows: Pressure over the sixth and seventh dorsal vertebræ is painful, but the sense of pain appears to be superficial. An angular deformity involves the dorsal vertebræ from the ninth to the tenth or eleventh, but there is no unusual sensitiveness to pressure there. On entering the hospital the patient felt rather stiff and had lost sensation and motion in both lower extremities. He could not feel a pin pricking the leg. The insensible was sharply divided from the sensitive portion of the integument by a line drawn from the first lumbar vertebra obliquely downwards and forwards. There was no power of motion whatever in the lower limbs.

At the present time he has improved so far as to experience a sense of pain and tingling in the lower limbs, which he compares to the "vibrations of a musical cord." Reflex action is partially restored in both feet, but is most evident in the right, while motility has improved most in the left limb.

I particularly call your attention in this case to the point that I have already particularly alluded to, that the patient has now a partial paraplegia, and that, although he has an angular curvature of the spine, there is probably no direct, or at least no necessary, connection between that fact and the loss of power in the lower limbs.

In the case whose history I first read to you this morning, although there is no such deformity of the spine, no angular curvature whatever, yet in other respects the history of the symptoms was precisely the same as that which I am now giving you; that is to say, the patient got cold and immediately afterwards suffered pain in the spine and lost, more or less rapidly, the use of his lower limbs. Now, the question would arise in the second case, is there any connection between the angular curvature of the spine and the paralysis? Did it exert any degree of pressure upon the spinal cord? or, having produced a slight degree of pressure, did that pressure become greater when placed under the influence of cold? Was cold, therefore, the immediate and efficient cause of the paralysis? My belief is this, that if cold had merely completed what the deformity had already made imminent, there would have existed certain symptoms attributable to the curvature alone—some evidences of pressure before the occurrence of the exposure to cold; but the patient had no pain, no loss of power, no prickling sensation in his extremities, nothing whatever attributable to spinal pressure. The spinal curvature appears to have become stationary and it probably had attained its maximum before this paralytic attack.

Therefore, I am disposed to dismiss this element of curvature of the spine as a cause directly producing the paralysis of the lower limbs, and to regard this paralysis as being due to the influence of cold alone, precisely as it must necessarily have been due to that cause in the case which we first considered.

I will suggest another reason why this inference is probably a correct one. You have heard that the condition of this patient has improved, both in regard to sensibility and motility; even since yesterday he states that a marked improvement has taken place; if that is true, it is certainly a very rapid improvement. Can we now suppose that his loss of power has been due to any considerable degree of displacement of the vertebra? Unquestionably not.

Upon this additional ground, therefore, I also conclude that the paralysis was probably independent of the angular curvature of the spine and that it is by a mere coincidence that a man affected with angular curvature of the spine was attacked with paralysis produced by cold. The two cases, then, which we have been studying, appear to belong to the same category.

The case which I have next to present to you presents a very marked contrast to those which have just been examined.

Case III. *Chronic Softening of the Anterior Columns of the Spinal Marrow—Motor Paralysis.*—John C——, white; born in Scotland; 60 years of age; admitted January 20, 1868.

Previous History.—Was a sailor until ten years ago, after which he was engaged in dredging for oysters. Was a drinking man while a sailor, but not since. Lived in Philadelphia for the last three years. General health was always good; had no serious disease whatever. His father had an attack of apoplexy.

About thirty-six years ago, when a sailor, cruising off the coast of Africa, he was one day exposed longer than

usual to the heat of the sun, while doing duty aloft. He became giddy and on reaching the deck he fainted. He was given something to make him vomit; after which he recovered and, for twenty-six years, enjoyed good health. In August, 1858, having abandoned the sea, he went into the oyster trade. One day, while working in the water up to his waist, under a hot sun, he felt unwell, but continued at work, after which he rested and refreshed himself with a cup of hot coffee. Immediately he was attacked with diarrhœa, was in great pain and suffered from cramps in his limbs. While at stool, he fainted away and his companions thought he was dead. On recovering consciousness he found he had partially lost the use of his lower limbs; was unable to set his feet where he desired to, and his right foot was turned upon its outer edge; experienced no unpleasant sensations of any kind; no shooting pains, no cramps in the limbs, neither spasm, formications, nor sense of coldness, and has never had any pain since then. The next day he was able to walk tolerably well. The foot regained its natural position in about two months. Had no incontinence nor retention of urine and no disorder of the bowels. Since then his lower limbs have become gradually thinner.

During the ensuing twelve months he slowly improved in his power of walking and went about comfortably with the help of a cane. About three months after the accident, he took a book-stand to earn a livelihood, but some nine months later, the improvement was not only suspended, but there was a steady, though very gradual loss of power in the lower limbs. But with the help of a cane he continued to walk pretty well, until a year and a half ago, when he was compelled to use crutches and continued to lose more and more the power of his legs; but their sensibility was not in any degree impaired. He has been growing deaf since the attack. There is a slight converging strabismus, which he says he always had.

Present Condition.—The patient states that but for the loss of power in his limbs he should feel perfectly well. His complexion, expression of countenance and manner denote average health. The appetite, digestion, respiration and circulation are normal for a man of his age. Vision with the right eye slightly imperfect and its pupil a little more dilated than that of the left. Pulse 70 to 80. The urine is loaded with the phosphates, and he suffers occasionally from its retention. The lower limbs are not

remarkably small for a man of the patient's age, but their muscles are soft and flabby. His manner of walking is vascillating, as if the limbs could not support the body. The reflex action of the left leg, as shown by tickling the sole of the foot, is decidedly more marked than that of the right. There is no apparent interval between impressions made upon either foot and the patient's perception of the sensation. The power of both arms and hands appears to be normal, but the adductor muscles of both thumbs are completely wasted away. General sensibility is everywhere normal. Immediately after the original attack there was a partial improvement of the muscular power of the upper extremities. It was hardly noticeable, except in the more delicate movements of the hand. Thus, although he has always been able to use a knife and fork, he found himself unable to write with a pen and was obliged to use a pencil for that purpose.

One or two points ought to be examined before we consider the nature of the case. You observe the reflex action which is produced here, which is rather excessive and more readily produced upon the left side than upon the right; there is very little on the right side, on the left a great deal. You see that the patient has a pretty considerable control over the muscles of the lower limbs. When he lies in this position (upon his back) he can move his limbs with considerable vigor. There is no appreciable time occupied in the transmission of sensations from the feet to the head. The capillary circulation of the limbs appears to be pretty good.

It is too cold to keep the patient in this room. You will notice, before he leaves, his general appearance and his countenance.

Now, what is the nature of this paralysis? You see at once that it is a totally different case from the other two presented to you, the whole history and the phenomena presented on examination of the patient are different.

The best way in the consideration of a case of this kind, as in diagnosticating most other diseases, is to pass

in review all the possible causes, or organic conditions which may be connected with the conditions that have been presented by the patient, and thus, examining one after another, and, excluding successively those which evidently have no connection with the case, we must at last reach one which corresponds with it. In other words, the case is then found to belong to a certain category with which we are already familiar, and with whose nature we are acquainted. This method of investigation is *diagnosis by exclusion.*

Let us look at the different causes of paralysis of the lower extremities. One that is not at all infrequent is *hæmorrhage into the substance of the cord.* This of course implies a very sudden attack, but it also implies, and in that respect corresponds with the case before us, (I believe in every case in which it has been found,) complete loss of sensation and motion. But although we have the sudden attack here, we had not in the beginning, nor have we now a complete loss of sensation and motion. In fact, sensibility was not and is not at all impaired, and motility is only partially so. Therefore, we shall exclude that supposition. But *hæmorrhaye into the vertebral canal* may occur and give rise also to symptoms of the same class. It may occasion a rapid loss of motion, but observe it, at the same time, gives rise to something else, viz: to symptoms of irritation. They resemble the effects of an inflammation of the membranes of the spinal cord, with which you have now become, I suppose, more or less familiar. They are pain in the spine, in the spinal marrow, within the vertebral column, pain along the nerves that are given off from it, and extend to the sides and the lower limbs. But in this case you have pain in none of these places, nor indeed anywhere, and, therefore, hæmorrhage into the vertebral canal must be excluded.

Can the case be one of *active congestion of the membranes of the cord?* This is a very frequent occurrence as an effect of cold. It is precisely the cause which was in operation in the other cases which we have considered, and those we diagnosticated accordingly; but, in these two cases and in all others of active congestion of the membranes of the cord, in the beginning you have pain in the spine and in the limbs, and you have it coming on before any paralysis takes place. Here, again I repeat, we have no pain, no spasms, nothing but a mere loss of power, not even a loss of sensation.

Let us look, now, at these changes which may take in the cord itself, to *softening of the cord*, for instance. There are different kinds of softening of the cord; there is inflammatory softening, that is to say, active inflammation of the cord resulting in softening, and with that you have the symptoms that I have already mentioned in connection with active congestion of the membranes. You have pain, a peculiar kind of pain darting along the nerves, and with it you have loss of sensation and motion. That description, evidently, does not apply to the case before us. Again, you may have a softening of the cord which is sometimes called white softening, a non-inflammatory softening when the active inflammatory stages has either not existed at all, according to some, or where it has been so slightly marked, according to others, that it presents none of the peculiar symptoms of inflammation of the spinal cord. But inflammatory softening comes on so gradually that weeks and even months, may pass before the paralytic symptoms are developed. Here, on the contrary, we had a sudden development of the symptoms which have existed, more or less, ever since.

There is another chronic disease of the cord which consists in a *hardening of the anterior columns*, depending

upon a thickening of the connective tissue of the cord, very much like that thickening of the connective tissue of the liver, which most of you are now familiar with, under the name of cirrhosis, You know that in that disease the connective tissue of the liver becomes thickened and hardened, and, as it does so, it presses upon the proper glandular tissue of the organ and gradually destroys it. So there is in the brain, so there is in the spinal marrow, a disease of the same sort, a thickening of the connective tissue which inter-penetrates the nervous matter, which thickening, gradually produces atrophy of the nervous pulp.

This, which is called *sclerosis*, or hardening of the spinal marrow, must necessarily be a chronic disease, beginning by very slow and imperfect symptoms and very gradually producing loss of motion, for a peculiarity about the disease is, that it does not affect sensation.

Here, then, you have a case, at last, in which there is impaired motion of a particular kind and not impaired sensation; but the case of sclerosis is one in which all those symptoms come on with extreme slowness, whereas in this case they came on like a flash. It is, therefore, not sclerosis.

There is, perhaps, but one condition left which is suggested by the case that we have been studying. I have alluded before to an *active congestion* of the membranes of the cord. But there is another kind of congestion, a congestion that comes on, if not slowly in point of time, at any rate not violently; a congestion which may come on rapidly, that is to say, it may complete itself within a few hours and yet may not be attended with very violent symptoms, probably because the filling up of the vessels and the exudation from them have taken place very slowly, for you know there is a very great difference between the effects of pressure upon the spinal cord (and,

indeed, on all organs) when it is produced rapidly and when it takes place slowly. In the former case the parts have not time to accommodate themselves to their new relations; the blood-vessels have not time to establish any other channel of communication between the parts that are interfered with, and so on. But let the same pressure be exerted gradually and then the circuitous communication is established slowly and the symptoms of functional derangement do not arise. Such is precisely the state of things in the present case. When we have active congestion, local symptoms of a more marked kind are always excited, that is to say, pain in the spine, the pain in the nerves which are disturbed, between the affected portion of the spine and the trunk and lower limbs; but, let the congestion be what is called passive and there is then no shooting pain, no alteration in the reflex movements at the time, and the patient, instead of being deprived of the use of his limbs immediately and completely, can walk about always as well as before. There is this peculiarity about it too, and one concerning which we neglected to ask this patient, viz: whether he noticed a difference in his ability to walk immediately after getting up in the morning and after he has been sitting up for some time. In this form of passive congestion, after the patient has been lying on his back for a considerable time, and then begins to walk, his attempts are at first entirely fruitless, but after a while the pressure upon the cord diminishes and the act of walking is accomplished with greater facility.

In this case I do not see how we can come to any other conclusion than that there has been more or less congestion resulting in a greater or less organic change in the *anterior columns* of the spinal cord. Why do I draw that conclusion? Simply for this reason, that the sensibility is, and, as far as I can learn from the patient him-

self, the sensibility has always been perfect. The difficulty has always been in locomotion. But what part of the spinal cord controls muscular action? It is not the posterior columns at all; they are devoted altogether to sensation and to other functions independent of motion. The anterior colums control motility, for if they are alone affected, or completely destroyed, motion is more or less completely lost, although sensibility may remain intact. In the present case you observe that motion is not lost entirely, but it is very considerably impaired, especially while the patient lies upon his back; wherefore, we must conclude that there is a lesion of the anterior columns of the spinal cord, that that lesion does not amount to their destruction, by any means, but that they have undergone considerable changes and, that the posterior columns and the gray matter of the cord which control sensibility and receive sensations, are perfect. I think, then, we may safely venture to localize the lesions which give rise to paralysis in this case in the anterior columns of the spinal cord.

In discussing the various forms of spinal diseases affecting the power of motion, I have said nothing yet about one which involves the *posterior* columns. This particular lesion is that which many of you have heard of I suppose, under a name by which it has been distinguished for many years, "locomotor ataxia." In that particular disease it is said that the patient loses the power of control over the coördinate movements that are under the government of the spinal cord, that unless he has the assistance of a mental act, unless he has the assistance also of the sensation of sight, it is impossible for him to govern his movements at all, that the limbs merely answer to the reflex irritation which they receive from whatever they are in contact with. In other words, that if you place such a patient on his feet and

allow him to use his eyes he will be able to walk pretty steadily, but the moment he shuts his eyes he totters or falls because he has lost the directing power of sight and the muscular sense to enable him to adjust the muscles employed in locomotion and to perform all those functions which together enable us to make progression in walking. Whether this condition exists in our patient a further examination may develope; I think myself tha it does not. In locomotor ataxia, depending upon degeneration of the posterior columns, I am not aware that there is any wasting of the muscles; but in this present case we have an evident, although not a very great wasting of the muscles of the lower limbs, which are chiefly affected with paralysis. We have, however, another muscular wasting which is very significant of a central lesion of a more definite and a deeper kind than that which is involved in locomotor ataxia, and it is this, the muscles which form the ball of the thumb, the adductors, are entirely absent, and both thumbs are affected in the same way. This atrophy began immediately after the accident, which produced the paralysis, and has been increasing ever since. It shows, therefore, that there is certainly a central lesion, not merely of the lower part of the spinal cord but also of the upper part, as high as the neck, because otherwise it would not be possible to explain the wasting of these muscles of the thumbs.

We have, therefore, in this case not merely paraplegia, although that is the most prominent phenomenon belonging to the disease, but we have also a certain loss of power and loss of substance in certain muscles in the hand, and all of these coming on suddenly and therefore to be explained only by some sudden congestion of the spinal cord, which congestion may have resulted, and I presume, has resulted, in more or less molecular alteration in the anterior columns of the spinal cord. This

latter explanation does not strictly apply to the wasting of the muscles of the hand; there must be some other, some very local cause for this, because, as you will understand perfectly well, if any considerable portion of the spinal cord in the neck was affected you would have not only wasting of the muscles in the hand, but wasting of the muscles of the whole arm.

What is the true nature of the cause of this very local and symmetrical atrophy I am unable to say, but that it is a central cause I can have no doubt at all, because the effect is symmetrical.

I have said nothing in regard to the treatment of these cases, because the principal object I had in bringing them before you was to indicate the points of diagnosis which I have done somewhat roughly. Time would not permit me to go into the minute details of the diagnosis in each case and its physiological and anatomical grounds. I will merely refer to one or two points in the therapeutics of these cases. In the two, which were first read to you, you had an acute disease depending, in all probability, on a hyperæmia of the spinal cord; that hyperæmia still exists, and, unless something is done to diminish it, will probably lead to disorganization. In so far as external applications are concerned, we can best overcome hyperæmia by counter-irritation. So far as internal medicines are concerned, there are two substances which have a particular influence, not only upon the circulation within the spinal cord and its membranes, but upon that of other organs; these are belladonna and ergot, which are generally given in conjunction to control the circulation of the spinal cord. Cases of paralysis, which depend upon hyperæmia of the spinal cord, are more favorably influenced by these two medicines than by any other means.

But in regard to the other case, we must adopt a different ground of procedure. That case is of long stand-

ing, and it is out of the question that there should be now (and probably in the beginning there could not have been) any great or active congestion, so that whatever might have been appropriate in the commencement, a medicine intended to restrict the circulation of the spinal marrow, would be entirely inappropriate now. The only direct stimulant of the spinal cord, the only remedy which increases the circulation of blood and the organic changes within the spinal canal, you are all aware is nux-vomica, or its alkaloid strychnia. In this last case, then, I should certainly be disposed to employ small doses of strychnia, about one-thirty second part of a grain three times a day. We must be very careful not to over-stimulate the spinal cord, for if we do so, we may only precipitate its softening.

These are the chief points, gentlemen, which I have to bring before you, and I beg you will keep them in mind in connection with a case which was shown to you before; I refer to the man with angular projection of the spinal column. In that case the paralysis evidenly depended upon the angular curvature. Now, contrast this with the other case which you have seen to-day, in which there was indeed an angular curvature, but not, probably, standing in the relation of a cause to the paralysis, which seemed to have been due to the action of the cold alone or chiefly.

ART. II.—A CASE OF TUBAL PREGNANCY CURED BY PUNCTURE. Reported by Dr. EDW. MARTIN, of Berlin. Translated and read before a meeting of the Obstetrical Society of Louisville, Kentucky. By SAM'L BRANDEIS, M. D.

Mrs. L——, 29 years old; well nourished during the first five years of her matrimony, sterile in spite of various water-cures at Ems and Shoalbach and other treat-

ment. After her first husband died from phthisis, she married a robust young man, and though her menses returned regularly for the first eighteen months, they were first arrested in January, 1867; nausea and great debility, particularly of the lower extremities, and other appearances, led the young couple to suspect pregnancy, which was so much more confirmed by the missing of the catamenia at the following term in February.

After Mrs. L., on the 25th of February, had exerted herself somewhat too much while arranging some of her furniture, she was, on the 26th, with her husband, riding to a party and there she was suddenly taken with a violent pain in her abdomen, so that she was compelled to return and go to bed.

Violent nausea and vomiting, tenesmus at stool and micturition, together with tormenting colic, lasted all night. The summoned physician ordered morphia and fomentations upon the abdomen.

On the 27th of February, Dr. Edw. Martin was called in and found the patient pale and apparently collapsed; counteuance anxious; pulse 120; the abdomen tympanitically distended and painful to the touch; the ostium vaginæ narrow; uterus strongly anteflexed; its fundus enlarged; portio-vaginalis in the hollow of the serum, difficult to reach. The gradual application of cold fomentations and an enema of castor oil, gave some relief, but not enough to permit the patient to leave the bed.

After a renewed but less intense attack on the 3d of March, a moderate hæmorrhage took place, at which a piece of decidua was discharged. A small circumscribed tumor could now be felt behind the integuments of the left side, a little above the horizontal branch of the pubic bone. The hæmorrhage did not last long, but returned slightly between the 16th and 18th of March. Under the continued use of mild purgative medicines and ap-

plication of cold fomentations to the abdomen, the patient continued to be comfortable until on the evening of the 10th, a new spell of pain set in, which was repeated on the 14th. The increased tympanitis and tenderness of the abdomen made a careful palpation of the same impossible; but the small spindle-shaped tumor above the left horizontal branch of the pubis could still be felt near and next to it; towards the right side, another smaller one of globular shape.

The internal examination revealed an essential change, as compared with the former condition. A decided latero-version uteri was now so manifest, as to present the fundus uteri strongly towards the right, while the vaginal portion was situated towards the left side. In the left side of the pelvis, the same spindle-shaped tumor could be felt through the cul-de-sac, which presented itself behind the integuments in the left hypogastrium. The touch of it produced slight pain. The condition just noted in connection with the steady and gradual growth of the spindle-shaped tumor, besides the developed uterine fundus, could only confirm the suspicion of a tubar gravidity, particularly as two weeks after the menstrual arrest, a piece of decidua was discharged.

The frequent return of intense pain, the profound general disturbance in connection with the steady increase of the spindle-shaped tumor, gave rise to serious apprehensions as to a probable rupture of the ovum and a consequent internal hæmorrhage. Dr. M. was, therefore, happy to find the attending surgeon to agree with him, as to the necessity of preventing the further development of the ovum. For that purpose, on the evening of the same day, after emptying the bladder, Dr. Martin, under the guide of the left index finger, introduced an explorative trocar, which was curved after the pelvic axis and was sixteen centimeters long, the patient being anæs-

thetised, while the mentioned spindle-shaped tumor was pressed down into the pelvis by an assistant, with the hand upon the abdomen, the instrument was pushed upwards into the left portion of the cul-de-sac containing the tumor, for about from four to five centimeters.

After the stillette was removed, the canula advanced easily about two centimeters farther in, which proved that a cavity was entered.

A discharge of a few drops of sanguinolent serum followed, upon which the canula was removed. The patient roused from the narcosis without making any complaint. The patient was carefully watched; had cold water fomentations upon the abdomen, which acted so soothingly that she always desired them to be repeated.

Within the next eight days, no farther growth of the tumor was observed.

On the 4th, 5th, 6th, 7th and 8th days of April, some severe rigors made their appearance; some meteorismus existed at the 8th, but the tumor was distinctly reduced in size and the uterus had evidently returned from its latero-version into the normal axis.

Quin. sulph., gr. 1, was ordered three times a day.

On the 10th of April, after a copious discharge from the bowels, a small quantity of grumous blood and some gelatinous coagula came away from the vagina. The gradual decrease of the tumor became always more distinct. On the 16th the uterus was discovered in the pelvic axis; its fundus could no more be found behind the right horizontal branch of the pubis.

General health advanced gradually, though constipation, connected with colicky pains and a rise in the pulse to 120 in a minute, would, from time to time, disturb it slightly.

On the 4th of May the condition was so good that the patient was permitted to leave the bed.

At the end of June, patient was examined per vaginam; genitals found perfectly normal and patient permitted to make a trip in the country.

Bones, as were expelled in the former case, as reported by Dr. Martin (vol. xxi., page 245), in which the ovum was lodged in Douglas' fold and punctured through the rectum, did not come away in this case, as the fœtus was hardly advanced to the third month, nor did the locality favor such an event. The fact of the expulsion of some shreds of decidua, the regular growth of the spindle-shaped tumor distinctly felt behind the left horizontal branch of the pubic bone, the displacement of the uterine fundus to the opposite side, allow no room for any doubt as to the existence of gravidity in the left fallopian tube.

The result of the operation was just as favorable, as in the former case reported by Dr. Martin, and in another case as reported by Dr. Greenhalgh in the London Lancet, March, 1867.

Considering the great danger connected with a rupture of a fecundated fallopian tube, this operation will certainly be justified, granting that the diagnosis stands established.

ORIGINAL CORRESPONDENCE

"Sit mihi Fas scribere audita."

BERLIN, Prussia, 1868.

DEAR SIR: Since my last from Vienna, I have continued on my tour through Prague and Leipsic to Berlin and can not refrain from mentioning to you a few of the many objects of scientific worth I was fortunate enough

to meet with. Among many men of reputation, I had the pleasure of an introduction to Prof. Henry, of Vienna and Prof. Ludwig, of Leipsic. Both gentlemen are physiologists of rank and have constructed apparatus for injection; rendering the delicate operation of filling fine capillaries easy and practicable for all. As long as this was performed by the hand and syringe, it was very difficult to obtain good specimens; for, unless particularly skillful, (as, for instance, with Prof. Thiersch, of Leipsic), the pressure was not constant, now stronger, now weaker, when too strong, causing extravasation; when too weak, plugging the beginning of the capillary. The two physiologists above mentioned, experiencing the necessity of something more reliable than the untutored hand, constructed apparatus by means of which fluids are propelled through the vessels by the constant pressure of a column of mercury of a determined height. The credit of the discovery belongs to Ludwig; that of the best improvement to Hering. The apparatus of the former has this disadvantage—that, at the time of filling in the injecting mass, the mercury must be evacuated and thus a considerable quantity of this expensive fluid is lost. Prof. Hering has arranged, by a number of globes and tubes, to make repeated use of the same column of mercury, not a particle being wasted. The apparatus, though apparently complicated, is very simple and ingenious. Both gentlemen, with the characteristic kindness of *German professors*, allowed us to make use of their apparatus under their guidance.

There is an animated controversy amongst German oculists in regard to the superiority of extracting of cataracts by section through the *cornea* or the *sclerotic*. Prof. Hasner, of Prague, is the strongest advocate for the corneal wound; Prof. Knapp one of the vindicators of the scleral. As, in the course of our trip, we stopped at

Prague, the two gentlemen met and concluded to operate according to their several opinions, in order to discuss the subject, and, if possible, throw some light upon it. Prof. Knapp performed his operation with his accustomed skill, the cataract-knife of Von Graefe being used; the lens was delivered with ease by simultaneous pressure on the posterior lip of the wound with one spoon and on the lower part of the cornea with another. Prof. Hasner, who, until then, had denied the possibility of making a linear wound, acknowledged this one to be perfectly so, there being no height of flap. The Professor had operated on a case previously by the usual flap operation, and, according to his method, performed the puncture of the hyaloïdea after the escape of the lens. Both patients could distinguish objects after the operations, so that by this operative demonstration nothing was gained, but the possibility of exact execution of both methods; which, of the two, merits our preference, can only be deduced from ultimate statistical results. Most German oculists have abandoned the flap operation for the new method and all who have tried the latter on a larger scale, so as to acquire skill in performing it, are enthusiastic in its praise, asserting that the results are decidedly better than those of any other method. The puncture of the hyaloid membrane, as performed by Prof. Hasner, causes a small portion of the vitreous to flow into the anterior chamber, and constitutes his modification of the flap operation. According to his views, it has the advantage of removing remaining portions of the lens and capsule from the centre of the pupil. He claims to obtain a much clearer pupillary field than if remnants of the lens and capsule were allowed to remain. In the operation above mentioned, the vitreous filled the anterior chamber after the puncture had been made, the iris thus becoming removed from the cornea, and the pupillary field becom-

ing clear. No vitreous escaped from the corneal wound. Prof. Hasner then showed us a number of cases which had been operated on according to his method. In two, the pupils were as clear as if the capsule had been extracted with the lens. On further examination, we found some patients with coloboma of the iris, consequent to prolapsus iridis after the operation; in others, pupillary membranes, more or less dense (pseudo-plastic membranes from iritis) were present; and, in one case, suppurative iritis threatened to destroy the eye entirely. These accidents can not be ascribed to the puncture of the hyaloïdea, since they are consequences of the flap operation, not at all rare when the vitreous is left untouched. On the other hand, such perfect clearness of the pupil as we saw in the two cases first mentioned, is only exceptionally met with when the puncture is not made. What would be the result of a combination of Hasner's method of puncture of the hyaloïdea with the modified linear operation, as performed by A. von Graefe?

And now, before leaving the subject of ophthalmology, I must not forget Stellwag von Carion. He showed us a number of specimens, the most remarkable of which was a fungoid growth in the conjunctiva of a boy. After having been cauterized by another physician, this growth, primarily orbital, soon perforated the globe and became intraocular. Prof. Stellwag recovered a portion of the orbital tumor. The remainder shrunk and at the expiration of three years, there had been no recidive. Under the microscope the growth proved to be a granulation tumor. It shows how luxuriant granulations may stimulate a character of malignancy by undue irritative treatment.

Stellwag lays particular stress on the fact, that in the great majority of cases, convergent strabismus is due to hypermetropia, and says that the operation is ineffectual

very often when convex glasses are not applied afterward, asserting that the squint will disappear, if this error of refraction be corrected by suitable convex glasses. The resort to these glasses, he prefers deferring to the fifth year and considers it inadequate after puberty. In the latter case, he first operates and then makes use of glasses, to insure the permanency of the result. The ophthalmologists of Germany prefer the latter method in all cases, both before and after puberty, and, although he is supported in his views (Donders), it still remains a problem whether they will become generally accepted or not.

In his wards we were also fortunate enough to see a number of cases of soft cataract, in which he had performed a modified flap operation instead of the usual discission. It consists in making a short flap and small wound about one line anterior to the margin of the cornea and thus extracting the nucleus of the opaque lens, whilst the soft, cortical substance is permitted to peel off. The greater portion can be evacuated afterward and the remainder is dissolved in the aqueous humor. He has not operated a sufficient number of times to assert that it is preferable to the methods in use, but claims to have obtained favorable results. This procedure is no new one. It is the method of the so-called linear extraction, performed in England some years ago by Gibbon, Critchett and others; afterwards in Germany by Von Graefe and a number of German ophthalmologists. The only difference is in the instrument employed—Stellwag making his incision with the ordinary cataract-knife, instead of the lance-knife. The indications, every manipulation during the operation and the after-treatment are identical. The operation, however, is not commendable, as the danger of anterior synechiæ and its consequences (glaucoma) is certainly increased, and, in many instances,

must inevitably follow. This method has been almost completely abandoned in favor of discission, or extraction through the scleral border.

In Vienna, we took a high interest in the clinical and pathologico-anatomical demonstrations which Prof. Politzer, (one of the most renowned authors in aural surgery), was kind enough to make during a whole week. His ingenious method of driving air into the tympanic cavity through the eustachian tube during the act of deglutition, I need only mention here, as it is well known throughout the medical world. On a large number of patients we were witnesses of its practical utility in furthering diagnosis and a therapeutic agent. Another excellent method of investigation, introduced by him, consists in determining the cause of deafness by means of a tuning-fork placed upon the middle of the cranium. Some patients, when subjected to this proceeding, affirm that they distinguish the sound better with the deaf ear; others, on the contrary, with an unaffected ear. According to Prof. Politzer, this is due to obstructions in the tympanic cavity and the external meatus and to thickening of the tympanum itself; in this manner, the expansion of the undulations of sound to the air being more or less interrupted. When the tuning-fork is placed on the middle line of the cranium, the undulations are conducted through the cranial bones to the labyrinth and by the fenestra rotunda, and, perhaps, ovalis, to the tympanic cavity, the tympanum, external meatus and air. If the tympanum be thickened, or if there be an obstacle in the cavity of the tympanum, or meatus auditorius externus, the undulations of sounds are transmitted to the air only in part, whilst in part they are reflected on the fenestra and bony walls of the labyrinth. This is confirmed by an artificial ear constructed by the Professor. The tympanic cavity, the ossicles, tympanum, external meatus and the beginning of

the labyrinth, are represented in it and he varies the effect by means of a diaphragm (for the pathological thickening of the external parts of the ear), which he introduces into the meatus auditorius externus. I dwell rather long on this subject because it is new and highly important in the diagnosis of the cause of deafness, whether it lies in the labyrinth itself or external to it.

Prof. Politzer, among many other interesting pathological specimens, also kindly demonstrated diseases of the tympanum, different kinds of inflammatory products within the tympanic cavity, caries and purulent destruction of the bony parts of the organ of hearing and their sad consequences; suppurative meningitis and thrombus of the cranial sinuses.

It would lead me too far to describe these specimens in detail and I should owe your readers an apology for the minuteness with which I have entered into the above description, were it not that the interest and novelty of this method of diagnosticating diseases of the ear bears the excuse in itself. Yours, truly,

SAM'L COLE, M.D.

—[*Chicago Medical Journal.*

NEW YORK CITY, September 17, 1858.

The summer being over, once more the medical world of New York is rousing to action. The dull monotony that has had such full sway since the commencement in the spring now gives way to the new life and activity of the coming fall and winter lecture-seasons. Several changes have been made in the lecturing corps of the different medical colleges and everything indicates a prosperous winter course. Students are rapidly coming into the city from all parts of the country, and, it is said, that

the number of students already registered in our city medical colleges much exceeds that of former years. The 'Women's Medical College" is in a highly flourishing condition and the number of students there this fall and winter promises to be quite large. The college is located at the New York Infirmary, No. 126 Second avenue, and opens on November 2d. Its faculty consists of nine professors, three of whom are women educated in the profession, and its board of examiners has connected with it some of our most distinguished physicians and surgeons. The college has the advantage of being located at the Infirmary; the city hospitals are now open to female students, and nothing is wanting to afford a complete and thorough medieal education. The lady M.D.'s are, undoubtedly making good headway against the many difficulties they have to contend with, and their college has for its friends some of the first medical men of the city. One celebrated female practitioner here is quite overrun with practice, is sent for in consultation to distant cities, and has numerous applications from young female students for admission to her office. Her charges for a year's instruction is $500. The fees at the female medical college are the same as at the male colleges. A brilliant medical examination has lately been passed at Apothecaries' Hall, London, by Miss Isabel Thorne, a young English woman. The satisfactory nature of her written replies rendered altogether unnecessary any oral examination. The Medical School of the University of Paris is opened to female students, and an American lady has already passed her first examination for the degree of doctor of medicine.

The preliminary course of lectures at the Bellevue Hospital Medical College will commence on Wednesday, September 16th, to-day, and will continue until the opening of the regular session, October 14th. The other col-

lege sessions commence at about the same time. Several of the schools of medicine throughout the country have already commenced their sessions. On the 13th of Augus, the Dartmouth Medical School opened. The chair of surgery has been rendered vacant by the resignation of Dr. Dixi Crosby, and is now filled by his son, Dr. Alpheus D. Crosby. The former has been connected with the institution for the last thirty years and has been absent from his post only on one occasion. He still lectures on obstetrics and has the general superintendence of the school.

We are glad to see that the Howard University has recently established a dental department, wherein regularly educated medical students can be instructed in the manipulations of dentistry proper. This department will supply a need that has long been felt, and will undoubtedly prove a success. The following names appear as composing the faculty: Nathan C. Keep, Oliver Wendell Holmes, Henry J. Bigelow, John Bacon, Thos. B. Hitchcock, George T. Moffatt, Luther D. Shepard.

Two remarkable dental operations have lately been successfully performed in this city, an account of which may prove interesting to your readers. "The first was the dissecting of the lower jaw and half the upper, the supplying of new jaws of vulcanite rubber, a new palatine arch and artificial palate. The operation was performed by Dr. J. M. Carnochan, and the artificial replacement by Dr. G. H. Perrine, decidedly the most original and adventurous practitioner in operative dentistry we have. I have seen a letter from the patient, written at Oregon City, and he denominates the case a perfect success; after having an experience of several months, he cannot sufficiently express his gratitude. In the second case there is amputation of the lower jaw and replacement in rubber, and it involves the loss of three-fourths

of the tongue, totally destroying articulation. Dr. Perrine has this case, and undertakes to supply an artificial tongue which shall articulate distinctly, besides accomplishing the remainder of the restoration. These are the most remarkable cases on record, and deserve to be widely noticed. Dr. Perrine is a young man, enthusiastic in his profession and remarkably successful. The last case has, I learn since, been complete, in restoring speech and the contour of the features. Greater interest is attached to the first-mentioned case, from the fact that the patient applied to the best practitioners in Paris; not receiving sufficient encouragement he came to New York for treatment. In view of all the facts, these are the most remarkable combined triumphs of surgery and dentistry."

A "Dental Materia Medica" has lately been published in Philadelphia, compiled by James W. White. "The different drugs and preparations used by the dentist are here succinctly described, their doses and the indications for their employment given. The book contains very many useful directions, for which the student and younger practitioner will be thankful. The articles on anæsthetics and their administration, especially that on nitrous oxide, are very satisfactory. At the commencement several handy tables are given, abbreviations used in prescriptions, weights and measures, the pulse and respiration at various ages, the time of eruption of deciduous and permanent teeth, etc., etc."

The weekly mortality of the city still continues very large. Diarrhœal diseases are constantly hurrying many victims to the grave. The mortality record for this city and Brooklyn during the late summer months has been as follows: The average weekly mortality for June, or during the five weeks ending July 4th, in New York, was 380, and in Brooklyn, 138. During July, or the four weeks ending August 1st, 817 died on an average each

week, in this city, and in Brooklyn, 287. In August, these high averages were diminished, in New York, to 695, and in Brooklyn to 281. During the week ending September 5th, 599 died in this city, and 293 in Brooklyn. Diseased meat is still supposed to be the exciting cause of many of these attacks. The New York State Cattle Commissioners, however, report that the importing of diseased cattle into the State has been effectually stopped, and that the meat sold here is now perfectly sound and healthy. They say that "carbolic acid is an absolute and perfect disinfectant; it not only destroys the odor, but kills the virus of the disease." The cattle plague has been very prevalent amongst the dairies which supply Cincinnati with milk, and many cows have died. In Rhode Island, Governor Burnside has recently appointed five commissioners on the cattle disease. This disease has now entirely disappeared from Western Europe, and in Central Germany, where it has made great ravages, it is gradually dying out. It is making great havoc amongst the cattle near St. Petersburgh and Moscow.

M. Foussgrives, Professor in the School of Medicine at Montpelier, has recently written a valuable treatise on the distoma hepaticum of sheep, which is characterized by the presence of distomæ, gourd worms, in the liver of the animal. This author believes that this disease can be communicated to the human species by eating the meat of these diseased animals, and as the worms are not destroyed by moderate heat in boiling, they can be favorably developed in the human stomach and bowels.

A peculiar form of disease has also recently attacked the horses of Brooklyn, principally those on the horse-car routes. The animal is suddenly seized with a dizziness, falls to the ground, and, in the course of a few hours, expires. The best-informed veterinary surgeons have pro-

nounced this disease to be a species of cerebro-spinal-meningitis.

Hogs are not exempt, but are being attacked in large quantities throughout the country with the kidney-worm.

Most of the medical journals of this city are in a flourishing condition and new ones still multiply and increase. The Medical Gazette, that sprightly little weekly, for the issue of which on each Saturday we ever look forward with pleasure, after disappearing from sight for some five or six weeks, has agreeably disappointed us by reäppearing in an enlarged form and with the addition of a new associate editor, Dr. John C. Peters. We welcome it again to our tables, with its many improvements. Then, as for the new medical journals, "The Monthly Medical Reprint," being a reproduction of the best articles from the latest issues of the most valuable British medical journals, issued its first number in July and promises to be a journal of much interest; also, "The Half-Yearly Compendium of Medical Science," published by the editors of the Medical and Surgical Reporter of Philadelphia, has lately appeared with its second number, and it is certainly one of great practical value. It is to be hoped that the medical men of the country will give a cordial welcome and hearty support to this truly "original American enterprise."* A new medical journal is also being started in Baltimore.

An interesting volume has lately been prepared by Dr. J. H. Griscom, of this city, entitled, "The Family Record, Biographic and Photographic—Arranged for Recording in Detail the Personal Incidents in the Life of each Member of the Family." The author states his plan in his preface as follows:

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* This work is cordially recommended.—Ed.

"The first page, besides being devoted to the record of the names, birth, marriage, etc., of both husband and wife, and a space for the photograph of each, to be inserted at several different ages, is arranged for recording the name, date and place of birth and death of the parents and grand-parents of each, including three generations. In addition to which there are spaces for recording incidents in the life of each.

The remainder of the volume is appropriated to the records of the descendants of the first-named parties, two entire pages being devoted to each, containing the name, date and place of birth, with space for five photographs at different ages; also, for the character and period of whatever diseases they may have, and the height and weight at different ages, with the schools, occupations and whatever other incidents may seem desirable to be remembered."

"This plan, it will be seen, is a most excellent one, and if it were only carried out by the majority, or even many, it would be of signal use for many purposes, besides its personal interest to the family. Unfortunately, as we before adverted to, the singular want of interest in our own past forbids us to hope that it will be extensively adopted. We cordially wish that it were, and all who would like to make a beginning can obtain a copy of the Record from Dr. Ed. Griscom, 42 East Twenty-ninth street, New York City."

Yours, very truly,

JAMES B. BURNET, M. D.,
Late House Physician at Bellevue Hospital.

LOUISVILLE, KY, September 22, 1868.

Editors of the New York Medical Gazette:

GENTLEMEN: On the authority of a Western medical exchange, it was stated, in the September number of the Richmond and Louisville Medical Journal, that the publication of the New York Medical Gazette had terminated. *After* this statement had been published, the first number of the Gazette which reached this office in six weeks was received. The assertion made by the editor of the exchange journal, to which reference has been made, and the disappearance of a weekly journal for six weeks, justified the belief, that, as was represented, the publication of the Gazette had been terminated. When the Journal mentioned reäppeared, a paragraph was prepared for the October number of the Richmond and Louisville Medical Journal, in which the facts herein mentioned were stated in detail.

In the last issue of the Gazette, its editors are pleased to comment on the announcement made in the Richmond and Louisville Medical Journal, and to state that the assertion published, "savors *tant soit peu de Gaillardise.*"

Granting that this charge is just, and generous, I trust that it does not savor less "*de Gaillardise,*" to promptly and publicly confess an error; to regret its occurrence, and to give with pleasure to those (unintentionally) injured, the editorial hand of congratulation and welcome. This note appears in the October number of the Richmond and Louisville Journal, and I ask that it may also appear in the next issue of the Gazette.

Very truly yours,

E. S. GAILLARD.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

WHY NOT? A BOOK FOR EVERY WOMAN. By HORATIO ROBINSON STORER. Second Edition. Lee & Shepard, Publishers, Boston: 1868.

This small work, with the above rather mysterious and sensational title, is not only "elegantly written, but is unexceptionable in tone, and should be in the hands of every woman, married or about to be married"—at least, so say the Ladies' Repository, the Waukegan Gazette and the American Homœopathic Review.* Whether the medical profession will indorse these complimentary expressions of the secular press remains to be seen. At least three medical periodicals that we know of (one of them published in Dr. Storer's own city and the others in the South) have already been reckless enough to dissent from the popular opinion, as expressed above, and to intimate pretty clearly that the Prize Committee of the American Medical Association had not in this instance shown very wise judgment or very fastidious taste.

The history of this "popular tract," as it is called, is given in its own pages as follows: At the meeting of the Association in Nashville in 1857, a committee was appointed to investigate and report on the subject of criminal abortion. Subsequently the President of the association prepared a memorial, to be presented to "the different legislative assemblages and State medical societies of the Union, showing the necessity of a radical change as

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* See Appendix, pp. 98 and 99.

to the popular estimate of this crime." Then, in 1864, a prize was offered for the best popular tract on induced abortion and a committee was appointed to award said prize. The committee was composed of Drs. D. Humphreys Storer, Henry J. Bowditch, J. Mason Warren and John H. Dix of Boston, who selected Dr. H. R. Storer's paper and made it the prize essay of the association for 1865.

Every physician will agree that the practice of criminal abortion is morally wicked and physically injurious, and the only question that can arise is, as to the means of suppressing it. There are two well-approved ways open to medical men when they desire to check a social evil or introduce a reform. They may either collectively petition the legislature of their country for such laws as they think desirable, or, in their individual capacity, they may use their influence (which is always great) against the supposed evil. As regards criminal abortion, the better class of physicians have always condemned it in unmeasured terms, when cases presented themselves in private practice, and as a public measure, indorsed by the representatives of the profession, nothing could have been more proper than for the chairman of the association "to memorialize the different legislative assemblages of the Union" in regard to this crime, as was done in 1857. If a thing is in itself desirable and is supported by the whole medical profession, it will be very apt to receive legislative attention. There is, perhaps, not a State in the Union which does not attach pains and penalties to the crime under consideration. If, again, the whole body of the profession exerts itself privately and socially (each member doing all he can to suppress a given evil) vast good is certain to be accomplished. But when all this has occurred, when State or national medical societies have petitioned their legislatures, and when

the individual members of those societies continue to labor faithfully to abate a crime like this, can any thing more be done? Will it be profitable to address a written appeal to the persons who are already criminals and to those about to become so, showing them the true nature of the crime in question and all its horrid consequences? As regards criminal abortion, we differ with Dr. Storer and say, no. In the average community, criminal abortion is the indirect result of an accidental sin and not of wicked purpose or gross ignorance. It is not a thing seen beforehand and deliberately provided for, but it is the rash sequel to a moment of fond weakness or unexpected treachery. In the majority of cases, having an accidental origin, so to speak, it cannot be provided against in the manner proposed. If it were a crime which women calmly regarded and determined on while yet in the distant future and wholly unnecessary, perhaps a tract like the one we are considering might have some good influence, though even of this we are not sure, for such conduct on the part of women would betray a moral depravity or a reckless passion too deep-seated to be reached by such means. But we do not believe it to be a coldly calculated crime, in the sense used by Dr. S., in any but the most corrupt communities; and we appeal to the experience of physicians every where and ask if it is not rather the last, desperate effort made by terrified girls to escape public shame and disgrace. In this view of the case, what good can be expected from a sensational pamphlet like "Why Not?" Are not the chances ten to one that, instead of preventing any one woman from committing the crime, it will lead a dozen to it? As long as a girl regards this act with vague feelings of terror and abhorrence, she will only be led to it through a great temptation which no "tract" would be able to save her from; but, put this little work in her

hands, tell her that abortion is a bad thing, but that thousands of women deliberately resort to it, every year, to save themselves from shame or trouble or expense, and from that moment the weaknesses and passions of her heart will be harder to resist than they ever were before.

If a foreigner were to read this book, he would suppose that all America was debased by this frightful evil. Dr. Storer does not speak, as if for his own section alone, but for the whole country. He professes to have shown that "forced abortions *in America* are of very frequent occurrences, and that this frequency is rapidly increasing, not in the cities alone, but in the country districts where there is less excuse on the ground of excessive expenditures, the claims of fashionable life, or an overcrowding of the population." We know not how bad things may be in New England, but in the name of the West and South we protest against the charges which he brings against our whole country. If the frightful immorality which he describes really abounds in the Eastern States, (whose great boast is of enlightened virtue and morals), it is because their population has run its course of civilization and is now on the descending plain. If it be true, as Dr. S. asserts, that in New England "induced abortion is proportionately much more common in the married than in the unmarried," "that the destruction of the fœtus in utero prevails more extensively, where the rites of law and religion would seem to have extended to that fœtus every possible safeguard," than where it is unprotected in this way, then we say, in the most confident tone, that that community is far beyond the reach of a medical tract, even though that tract be indorsed by the American Medical Association. If the native population of Massachusetts is stationary or decreasing in numbers and the standard size of families smaller than ever before, it

is because great natural causes of decay are silently at work, and only the infusion of new life and the introduction of fresh blood can save that population from extinction. The South and West have quite a different story to tell. In these sections the standard size of families is as large as in former years, and growth and vigor characterize the population. We have no registration reports just at hand, except those of Kentucky up to 1859, but *they* show that the annual number of births over deaths, is counted by thousands. We feel bold to say, that such is the history of every State out of New England, except, perhaps the negroized States of the South, where the brutality and poverty of the blacks increase the number of abortions, as they do that of every other crime.

There are then two great objections to this "popular tract." First—It misrepresents the social condition of our country, by drawing a picture of it from New England society. Secondly—It tells many things to the women that are dearest to us, which they have no need to hear and had better not know.

One of Dr. Storer's own friends, "a gentleman of very high standing in literary circles," mentioned to him this second objection. "Do you recollect," said he, "the story of the ostler who made his confession to the priest? 'Have you ever,' said the ecclesiastic, 'greased the teeth of the horses so that they should not eat their oats, and you thus get them?' 'Never,' was the answer. At his next confession, this was one of the crimes he unburdened. 'How can this be?' said the priest, 'the last time you denied this.' 'Yes,' was the reply, 'I did not know anything about it till you mentioned it to me!'"

It is not likely that the Association would have offered a prize for a *popular* tract on induced abortion, if the proposal to do so had undergone discussion. Every man

who attends societies knows how these things are managed. Any member who wants a subject investigated, proposes its investigation by committee or otherwise, and the house votes the measure, without paying any special attention to it. No doubt it was so in this case, at least it is hoped so, for the sake of the profession. In these days of flashy writings and sensational discoveries, the portals of the Temple of Medicine cannot be too well guarded. They have been tended rather carelessly of late, and medical journalists, the watchmen of the profession's honor and safety, should be awake to the occasion.

The desire of notoriety is not essentially an evil passion. As long as it is restrained within reasonable bounds and allowed to run only in the proper channel, it can be regarded with forbearance and compassion. It is only when it leads to injury that it requires restraint and rebuke. Of this little book, it may be said that it contains much that is true, and the objection to it is not that it condemns criminal abortion, but that it makes this universally reprobated crime the means of an attempt to undermine the barrier, between the profession and the public, by teaching the wrong people in the wrong way. It may be added, that there is no more insidious form of evil than that of clothing professional knowledge in the garb of philanthropy or religion, and perverting its application to the moral injury of the people. Dr. Storer himself seems incapable of appreciating any of the objections yet offered. When they have been gathered together and presented to him, sorrowfully, with the question, "ought these things to be taken from medical students and told to women?" his only reply has been, "Why Not?" S. P. B.

[This review was written four months ago. Other reviews excluded for want of space.]—Ed.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

SPEAKING of night perspirations, Dr. Thompson says: "Of late I have given, with most satisfactory results, four grains of odido of zinc, with four of extract of henbane. No remedy which I have as yet employed has exercised so uniformly favorable an effect in moderating 'night perspirations.' I am particularly anxious to direct your attention to the valuable properties of zinc, because the preparations of this metal have been disapproved by some writers of authority."

ABEILLE reports several cases of croup, where tracheotomy was proposed, but not permitted, successfully treated with the inhalation of fumes of cinnabar.—[*Ex.*

Many have tried the hypo-sulphite treatment in intermittent fever but without good results.

THE NUTRIMENT OF BEER—People who drink their ale and beer are very fond of telling how much nutriment they derive from them. Because they are manufactured from grain, many have the idea that the concentrated virtues of the grain are in the drinks. This is an entire fallacy. Prof. Liebig, one of the most eminent chemists in the world, assures us that 1,460 qts. of the best Bavarian beer contain exactly the nourishment of a two-and-a-half pound loaf of bread. This beer is very similar to the famous English Allsopp's and our more popular American beer. The fact is, the nutritious portion of the grain is rotted out before the beer can be made; and if the fermentation of the beer has been complete, Prof. Lyon Playfair declares that no nourishment whatever remains in the fermented liquor; and, as the English Alliance News says, "No chemist now disputes this assertion; for, except to flavor and amount of alcohol, the chemical composition of all kinds of beer is alike and brewers must laugh to hear doctors advising porter as

more nourishing than beer, when porter is nothing but beer colored by burnt malt; and often when beer goes wrong in the making and is unsaleable beer, it is converted into fine porter, the mere color covering many defects.—[*Journal of Chemistry.*

THE use of chloroform, for the *abbreviation* of malarial chill and the subsequent fever has been most satisfactory. As an antiperiodic it is not valuable.

RELIEF OF PAIN IN OPEN CANCER.—The field for experience in cancer at the Middlesex Hospital is, as is well known, an unusually large one, and opportunity has therefore been afforded for testing fairly the action of remedies in affording relief in this distressing disease. We learn that the exquisite pain which belongs to open cancer is found to be best relieved by the stramonium ointment, which is employed at this institution. The following is the formula for this in the hospital pharmacopœia: Half a pound of fresh stramonium leaves and two pounds of lard. Mix the bruised leaves with the lard, and expose to a mild heat until the leaves become friable, then strain through lint. The ointment thus prepared is spread upon lint and the dressing changed three times a day.—[*Lancet, Aug.* 8.

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

FERRO-MANGANIC PREPARATIONS.—Recent researches have demonstrated that manganese as well as iron is a normal constituent of human blood. It has also been discovered that cases of spanæmia, etc., which have long resisted the effects of iron treatment alone have been promptly benefited by combining manganese with iron. The attention of practitioners is particularly directed to this subject. The best combinations are the carbonate of iron and manganese pills, effervescing ferro-manganese powder, etc. The indications for the use of these compounds are,

briefly, those recognised for the use of iron, anæmia and spanæmia, chlorosis, passive hæmorrhages, malarial cachexy, inordinate frequency of heart's action after slight exercise, etc.

His Highness the Duke of Anhalt has chosen Dr. Tobald as the recipient of the gold medal of Art and Sciences in recognition of his distinguished contributions to the study of laryngeal diseases.

Dr. John McKenzie, the renown oculist, is just dead.

A New Test for Blood-Stains.—We were informed recently that a medical practitioner at Geelong, Australia, had discovered a new method of testing for blood, which was of a very delicate character. It consists in the application of an ozonized ether and tincture of guaiacum. As we have personally tried the experiment with some tests supplied to us by Messrs. Savory and Moore, and with success, the information may prove interesting to our readers. It appears to be very delicate, and, consequently, requires that the amount of blood should be small and in a very thin layer—the merest stain—otherwise the blue color which is developed becomes so concealed by the coloring-matter of the blood as to be inappreciable, except around the edge of the blood-stain. By applying, however, the above agents separately to blood-stains on a handkerchief, we did not ourselves fail to produce a characteristic blue color.—[*Lancet, Aug.* 8.

Personal.—We learn with pleasure, that Col. Eben Swift, the Medical Director of this department, has been promoted to a Brigadier-Generalcy for meritorious services rendered *voluntarily* during the prevalence of cholera at Fort Harker, Kansas, July, 1867. Dr. Swift was originally attached to the 2d Dragoons, a regiment which gave to her country a Johnson, a Wood, a Hardee, and an Arnold; and, as an old representative of the United States Army, we congratulate him on his well-deserved honors. Since his assignment to duty here, his prompt discharge of duty—his courtesy and ability have made him many friends—all of whom are sincerely rejoiced that he has at last received a reward for his labors.—[*Vicksburg Herald.*

A Sensible Legislature.—The Legislature of Wisconsin has passed a law, legalizing dissections, and also to prevent quacks from giving testimony in courts, on medical matters, and collecting fees.—[*Med. Record.*

Operations on the Vocal Cords.—At a meeting of the Royal Royal Medical and Chirurgical Society in London, on May 26, seven cases were reported, in which morbid growths were removed from the vocal cords by the aid of the laryngoscope.

Changes in Medical Journals.—The New York Medical Journal is no longer published by the house of Moorhead, Bond & Co., (of the Agathynian Press,) the Appletons having purchased the interests of the firm in this valuable monthly. The Appletons have also purchased the Quarterly Journal of Psychological Medicine, and these two journals will hereafter be published by this well-known and popular house.

The American Journal of Obstretrics, formerly published in common with the two journals last named, by Messrs. Moorhead, Bond & Co., will hereafter be issued by W. A. Townsend and Adams, the familiar and efficient publishers of Braithwaite's Retrospect. The editorial management of these three journals remains unchanged.

The publication of the New York Medical Gazette, as was announced in the last number of this journal (on the authority of a Western exchange), has *not* been terminated, but was only temporarily (six weeks) suspended. It will be published hereafter by the house of John Sarell, and is edited by Drs. A. C. Carroll and J. C. Peters. The first new number is creditable to all interested in its management.

The editor of this journal embraces the opportunity offered of re-welcoming these valuable works and of wishing them a long career of well-merited usefulness and success.

Death of a Noted Chemist.—Christian Frederick Schoënbein, a distinguished Swiss chemist, died at Baden Baden, Sept 5th. Schoënbein was famous for the boldness and originality of his generalizations, and although inferior to several cotemporaries as an experimenter, has, perhaps, never had a superior as a theorist. He discov-

ered ozone and antozone, invented gun cotton, and stimulated inquiries leading to many other valuable discoveries.—[*Ex.*

At a recent trial in the United States Court in the city of Chicago, Judge Drummond sustained a physician in refusing to testity as an expert, without having first received honorary fees therefor.

The Late Michael Faraday.—Prof. John Tyndall, the successor of Michael Faraday in the Royal Institution, has written a memoir of his friend, in which his scientific investigations are fully discussed.

Long Island College Hospital.—Prof. A. Flint, Senior and Junior, and Foster Swift, have resigned their respective chairs in this institution.

Another Medical College in Tennessee—Medical Department of the Cumberland University.—This medical college at Nashville, Tenn., will be opened on the first Monday in November. The Faculty are as follows: Drs. P. F. Eve, Daniel Dupré, S. P. Cutler, Thos. Menees, J. D. Plunket, S. H. Stout, Thomas E. Jennings, J. E. Manlove, J. W. Morton and E. S. Gaillard, Professors' tickets, $135 00; Matriculation fee, $5 00; Demonstrator's ticket, $10 00; Graduation fee, $25 00. See advertisement.

Obituary Record.—Died at Malvern, England, aged 82, William Stevens, M. D. Dr. S. was well known as the first to ligate the internal iliac artery, and as the originator of the saline treatment of cholera.

Prof. Paul F. Eve.—The readers of the Journal will be pleased to learn, that this distinguished gentleman has become one of its associate editors.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

The American Medical Association.—A Journal would be unworthy of recognition and support, if, in its editorial management, it manifested, in regard to any subject, the spirit of the fanatic or the partisan.

It was supposed, after the last editorial, upon the subject of the American Medical Association, that it would be unnecessary to make any further allusion to this body, until the period appointed for its next annual meeting, at New Orleans; material of an interesting and important character, however, has since come into the possession of the editor, and this fact, combined with the desire of securing a general attendance next spring, induces a further presentation of the subject.

It will be recollected, that the reasons editorially given, in this Journal, for the non-attendance of Southern physicians, at previous meetings of the Association, were poverty and an indisposition to meet those who had supported their government, in the indefensible policy of making medicines and medical supplies, etc., contraband of war. This latter reason called forth, at the last meeting of the Assocation, a denial (on the part of Professors Gross of Philadelphia and Davis of Chicago,) that the "Association had ever passed any resolution," the purport of which was to indorse the policy of the Federal Government, in regard to the subjects mentioned. Without (as has been learned) any intention to evade the issue, it must be said, in all justice, that the true issue was, on the part of these gentlemen, conspicuously evaded. It had never been charged, that "any resolution" had been passed,

but that the Association had supported the Government in the inhuman policy indicated. Subsequent information, furnished from two authentic sources, proves that a support of this policy was unquestionably given by the Association; for no fair and candid mind will attempt to establish a difference in the spirit of a body, where, on the one hand, it recommends the adoption of an inhumane policy, and where, on the other, it places, promptly and "indefinitely on the table," resolutions designed to remove an inhumane policy. Indeed the spirit of this body was so decidedly opposed to entertaining the commendable and excellent resolutions of Dr. A. K. Gardner, of New York, (a gentleman publicly known to be identified with the party in power, and actuated, therefore, solely by a spirit of humanity and philanthropy,) that, in his own words, "there was not a soul present to say a word in their favor and they were *squelched* instanter." Language which, if neither chaste nor elegant, has about it a terseness and positiveness which can not be mistaken.

It may justly and correctly then be said, that the Association, in refusing to even entertain such humane and charitable resolutions, did indorse the indefensible policy of the Government; and that when Professors Gross and Davis, thoroughly familiar with these facts, limited themselves to the denial of the passage of an *entirely hypothetical resolution*, they (whatever may have been their intention) did, in fact, evade the whole question at issue.

So much for the record. It is indisputable. Those who aided in making it, may possibly be able to defend, but they cannot deny it. Those who are readers and not representatives of this chapter, in the terrible drama of the past few years, so construe the action of the American Medical Association in regard to this subject.

Some may contend that it was no more the province of

the Association, than of any other organization, to lift up its voice and record its protest in condemnation of the policy adopted by the Government. This question will not be argued now, for it was not argued then. As every fair mind will admit, *it was not the reason which actuated the Association* in refusing to even entertain the eminently charitable resolutions indicated.

It will at least be said here, that other organizations do not, and can not have the same relations to the sick and wounded; that they are not informed in regard to such duties; that such labors are specially the province of the physician; that to discharge them efficiently constitutes a large portion of his moral, as well as of his professional character; that the public naturally looks to the physician for guidance and information, relative to such subjects, and regards him as grossly derelict, if he fails, not only to guide, but to lead public sentiment in all such emergencies.

If this is denied and the physician is to be regarded simply as a citizen, certainly, in the censure which the verdict of nations bestows upon all who witness, without protest, injustice and inhumanity, those are most to be censured who are most appreciative of the attendant evils, inseparable sorrows, sufferings and death, resulting from such inhumanity.

Professor F. H. Hamilton, in writing on the subject of professional interference, in such emergencies, worthily says: "In reference to the acts of the Government that relate especially to our profession and to the relief and succor of the sick or wounded, we have a right to be heard."

The editors of the New York Medical Gazette express their opinion of the action of the Association, on the occasion mentioned, as follows: "The New Orleans Times o July 24th, contains a letter from Dr. A. K. Gardner,

explaining the failure of his resolutions offered before the American Medical Association, in 1864, and inclosing his protest, published in the New York Times, of that year, against the barbarous legislation which declared medicines and medical and surgical appliances "contraband of war." It must be a matter of sincere regret to every right-minded member of our profession that the influential body in question refrained from entering its most forcible and energetic remonstrances against a measure which will ever remain a lasting blot upon our annals—a measure more repugnant to civilized warfare than would be the use of poisoned weapons or the dissemination of contagious diseases."

In whatever relation this matter is viewed, the course of the Association is as indefensible, as was the policy of the Government; a policy which was described, in the British Parliament, as proper only to an age of barbarism. It was worse, indeed, than this, for even in the days of the blackest barbarism (as has been well said by one of the warmest Northern advocates of the war and all who waged it), "the chivalric warrior spurned the idea of conquering a sick foe, but fed and nursed him well, and then fought him, on an equal footing."

So much for the history of the Association, in this transaction. So much for what may be said against its course. What may be said in its favor? It is a pleasure to place this on record; to be strictly impartial in this matter, to present, justly, all of its history.

"Audi alteram partem." The true animus of the members of the Association, in its general record, should, justly, be derived, from its "Transactions." In consulting these, every allusion made to the physicians of the South, has (as a Southern physician, true and distinguished, writes), "breathed the purest sentiments of brotherly regard and a desire for a reünion, unconditioned."

The first meeting held after the beginning of the war, was in 1863, when Dr. Wilson Jewell was president; he, while deploring the existing strife, alludes to Southern physicians as his "brethren, who once knelt with him at the same altar and drank at the same fountain; even here has the blighting influence of this civil war been felt, endangering its claims to an unselfish nationality." Trans. 1863, p. 52.

In the meeting of 1864, the chairman of the committee of arrangements, in his remarks to the Association, said: "There is a feature, Mr. President, in your present assembling of deep interest and solemn regret; I allude to to the profound silence, of many, that will appear on the calling of the roll."

Dr. Alden March, of Albany, New York, as President, says, in his annual address, when alluding to the absent: "May we not pray to be one now and ever more in our political, professional and social relations." Trans. 1864, p. 67.

In 1865, Dr. J. R. Van Kleek, at the meeting of the Association, offered the following resolution, which was adopted: "Resolved, That this is a National Association and as in its earlier days, we enjoyed, with pleasure and profit, the intercourse with our professional brethren from all parts of the country, and as the unhappy feud which, for four years, divided the nation has now ceased, and peace has again come, we trust forever, so we hope, soon again, to meet our members and delegates from the South, on the plattorm of fraternization; and to this end, we extend to them a cordial welcome." Trans. 1865, vol. 16.

At the meeting in 1868, the chairman of the committee of reception, said: "Mingled with a grateful appreciation of your presence in goodly numbers, comes the regret, that these seats hold so few representatives from our sister States of the South. In 1860, upon a lofty eminence

which looks down, from the East, upon the most beautiful city of New England, we shook hands with our brethren, and parted. The struggle for the nation's life, since so successfully achieved, had not then reddened the annals of our history. Weary years have dragged on; at the end of this sanguinary contest, we would fain meet again those from whom we have been separated; draw the mantle of forgetfulness over the past; renew to them the expressions of regard and with them dedicate the hour and the occasion to the sacred cause of learning, friendship and truth."

At this meeting, who was chosen President? A Northern man? A neutral man? One from the Middle or Western States? No, a gentleman from the very heart of the Southern States; one who had been, in every way, identified with the Southern struggle; whose blood had gallantly defended the banner of the Confederate army.

While the choice could not have fallen upon one, personally or professionally, more worthy of the honor, and more capable of sustaining the dignity of this high office, it is well known to him, and to all, that the selection was intended as a peace-offering to Southern physicians; as an appropriate expression of a desire to meet them again, as brethren.

Was there not sacrifice of feeling or of spirit in this? Was it not clearly an effort at reconciliation and the establishment of good feeling and good will? How does every candid reader respond?

What then is the general record of this Association, as tested by their printed speeches and recent acts. Is it friendly, is it conciliatory, or is it not?

Granting that their course when seeing medical supplies, etc., made contraband of war, without protest or action, was wrong; granting that it was a great wrong; assuming still more, that the members of the Associa-

tion had gone into the field and had been taken, with their hands red with the blood of their opponents; would there be any thing more hostile in this, than was the case in regard to the soldiers of the respective armies?

When these, when the great men of both armies, men who had undergone all of suffering and of exposure in the camp and on the march; who had been face to face with death on every battle field or had languished through weary months of anguish in prison and in hospital; when these men can forgive, can fraternally clasp hands, in the eyes of the world, and work together for the welfare of their country, shall it be said, that the physician is to be the only remaining representative of bitterness and ill-feeling?

Shall the great warriors and brave soldiers of classic battle-fields shake hands in the cause of peace and for the good of their country, while those, whose most military balls were compound pills and whose most doughty weapons were catlins or thumb-lancets, be alone inexorable and immovable?

When history paints her respective pictures of war and peace, is the physician in each of these, to be in the background; to be *always* in the rear?

If for the cause of humanity, he is willing, during war, to remain in the rear, is he content, during peace, when this obligation has ceased, to live there? Is the influence of habit so strong?

It is possible to understand how those surgeons who shared the trials of the camp, the exhaustion of the march and the dangers of the battle-field, may be slow to forget; it is easy to perceive that some, controlled by the prejudices of their patrons, are weak enough to fear pecuniary loss; but how those who, habitually constituted, in part, "the rear guard of the grand army," who took up their safe, genial and prosperous abodes at military posts

and general hospitals, (some who never left their warm beds, their family firesides and ample tables,) can assert that they are inexorable, is beyond comprehension.

Yet in this last list, as in the first, are some of the brightest, the bravest and the best!

To these, as to all, the appeal is made, to take the outstretched hand; to accept the offering of friendliness and reconciliation; to go, at the next meeting of the Association, to unite themselves with that body, wherein they have equal rights, equal privileges and equal duties; to aid the physicians and the citizens of New Orleans in giving to the medical men of America there assembled, not only a hospitable reception, but a warm, a manly and a generous welcome.

So shall this Association be fully reëstablished; so shall it again become, not only a full exponent of American science, but a strong bond of general and professional peace.

It may be said that this is a political article. It is not so written. All of its subjects are professional; the duties of physicians to themselves, to the public, to the wounded and to the sick; the relations of physicians to the subjects, the implements and the agencies of their calling during war, and their relations to each other and their country during peace.

Whatever may be the criticism, the writer feels that it is impossible to exaggerate the importance of reëstablishing, as a whole, the American Medical Association; of reüniting the great brotherhood of the American profession.

As has been well said, "the brotherhood of medicine is a closer bond than the tie of any secret organization and the Hypocratic oath is stronger than the abracadabra of the most powerful society." This was so in America once; if this paper can even fractionally aid in making

it so again, the time of the reader will not have been mis-spent and the labor of the writer will have been amply rewarded.

The American Journal of Obstetrics.—This journal for August, 1868, (the second number,) contains, as a leading editorial, some courteous and very creditable remarks in regard to the "Richmond and Louisville Medical Journal." Indeed, this editorial manifests such high tone and gentlemanly bearing on the part of its junior editor, Dr. B. F. Dawson, of New York, that it is well to give it a larger circulation, than it has so far enjoyed. It is presented entire (to use the concise and classic phraseology of the author), "word for word, from beginning to end."

Editorial.—"We are somewhat surprised to see that Professor T. G. Thomas' article, entitled "The History of Eight Cases of Placenta Prævia," which appeared in and was written *especially* for our May number, has been copied from the latter, word for word, from beginning to end, into the August number of the 'Richmond and Louisville Medical Journal,' without the slightest intimation of its source being given, so that the reader of the latter will naturally suppose, that it is a communication from Professor Thomas direct. If this was the first time the 'Richmond and Louisville Medical Journal' had been guilty of *such appropriations* of material from other journals, we might excuse, on the ground of carelessness or oversight, the non-accrediting of the above article to our journal, but it is only a short time since the 'Pacific Medical and Surgical Journal' complained of a similar appropriation of one of its articles, and the guilty editor, in his apology to the same, says, 'This is a fault, however, common to all journals,' and that 'no medical journalist, so far as has been observed, has been able to avoid this error—a fact, doubtless, *very familiar* to the complaining editor.' We are sorry we can not agree with the writer of this tribute to medical journalists, for we do not hesitate to say that there is not a journal of *high*

standing which does not always accredit its abstracts to the proper source, and which, in case an error in that direction should occur once, would not allow its repetition in the next number.

"It is with no 'dog in the manger' spirit that we make this complaint; on the contrary, we should have felt complimented had the article in question been accredited to the American Journal of Obstetrics."

This remarkable production is given, in its syntax and phraseology exactly as it has been published; there can, therefore, be no doubt as to the justice of any criticism that may be made in regard to it. These are, however, comparatively small matters, and the attention of the writer will therefore be given to those of more importance.

The junior editor of the obstetric journal states, in regard to the republication of the article of Prof. Thomas, that there is not "the slightest intimation of its source being given," so that the readers of the Richmond and Louisville Medical Journal "will naturally suppose it is a communication, from Professor Thomas, direct," to the latter work. In the July number of this Journal, there is, on page 96, a complimentary notice of the first number of the Obstetric Journal, This notice is longer than usual; the journal mentioned is particularly welcomed and in giving, in part, a summary of its contents, the following language is used: "The *original* department contains an excellent article on placenta prævia, with records of eight type cases by Prof. Thomas, etc." Is not this sufficient credit to give to any journalist for the contents of his work? The credit was not repeated in the August number of the Richmond Journal, as was intended, and as would have been in compliance with the general instructions given to the publishing house which places this article in type, but full credit had been previously given. The error was detected by the "guilty

editor" before the August Journal was mailed, and the apology which appeared in the September number of the Journal (though unnecessary) was immediately written, that the most rigid justice should, without delay, be extended to those interested. If, however, this ample credit had *not* been previously given, is it possible that any one reading this leading article in the "*Eclectic Department*" of the "Richmond and Louisville Medical Journal," with the Latin motto, "Carpere et colligere" placed conspicuously over the first line of the article, could suppose it to be an *original* communication—"a communication from Prof. Thomas direct"? Surely no one but a simpleton could mistake for *original* matter any article in the *eclectic* department of a work, or construe the words *carpere et colligere* to signify an original communication from Prof. Thomas!! The junior editor of the Obstetric Journal must give the members of the profession credit for some sense; he must not believe that they are as idiotic, as he seems to fear that they are. They have not made the mistake apprehended, if he has.

As to the subject of "appropriations of material from other journals," it is only necessary to say, that the same rules are observed in the preparing of this Journal at the printing-office, as are observed in all respectable offices. Where journals entire are sent to the office (as was done with the Obstetric Journal), the general instructions are for the printer to credit from the title page of the work sent, and where smaller extracts are sent, without the original work containing them, to give credit as indicated by the editor.

The junior editor of the Obstetric Journal does not "hesitate to say that there is no journal of *high standing* which does not credit its abstracts to the proper source," etc.

In such a statement the fullest credit should here be accorded to him for his honesty, candor and power of appreciation; for, in the first number of his own journal, in that portion of it devoted to "its abstracts," there are three articles appropriated, for which no credit whatever has been given. According to the premises voluntarily selected and granted by this editor, he accepts for his journal a somewhat discreditable and not very desirable position.

If, however, he is willing to have *his* work so adjudged, he will not be permitted to injure other editors, whose criterion is somewhat different and whose pretensions are somewhat less Pharisaical.

Before the writer of this reply, there are most of the journals published in this country. They have been examined by himself and one whose name may be obtained on application, and the result is, that *in each* is to be found one or more articles or extracts from other journals, "without the slightest intimation being given of the source" from which such articles or extracts were obtained. Here is a list of the journals examined:

The Canada Medical Journal; The Boston Medical and Surgical Journal; The Buffalo Medical Journal, which recently published the greater part of the miscellaneous department of this Journal, motto included, without credit; The New York Medical Journal; The New York Medical Record; The New York Medical Gazette; The Philadelphia Medical and Surgical Reporter; The Medical News and Library; The American Journal of the Medical Sciences; The Half-Yearly Compendium; The Detroit Review of Medicine and Pharmacy; The Chicago Medical Examiner; The Cincinnati Lancet and Observer; The Leavenworth Medical Herald; The American Journal of Dental Science; The Dental Cosmos; The Humboldt Medical Archives; The Chicago Medical Journal;

The New Orleans Journal of Medicine; The Galveston Journal; The Atlantic Medical and Surgical Journal, and lastly (as it is assigned this position by its junior editor), The American Journal of Obstetrics.

Are these journals all unworthy and disreputable? Are none of them of "high standing"? On this demonstration, it is clear that the junior editor of the American Journal of Obstetrics either delibrately wrote what he knew to be untrue, or that he did not know what he was writing about. He may accept either position, and in doing so, the propriety of much solitary reflection and of retirement, until he obtains a little necessary information, is to all (but himself) decidedly apparent.

In regard to his allusion to "the dog in the manger," there is not much to be said. Why he should have regarded it necessary to disclaim any resemblance in his spirit to that attributed to this domestic animal, *in the locality indicated*, is not evident; unless it occurred to him that such a similarity might be alleged, and he thought it judicious to parry an anticipated thrust. It would have been best, however, in disavowing the resemblance, to have made it absolute, and not to have limited it, as he has ludicrously done.

It is very proper and judicious that journalists should politely call the attention of each other to their respective omissions; omissions which, from their occurrence with the truest and best, all persons of common generosity or common sense must admit to be entirely accidental. Such timely and courteous admonitions are salutary and welcome to all right-minded men; but when they are so made as to render it necessary for the writer to deny a similarity in his spirit to that of a "dog in the manger," such philippics would be offensive, if they were not ludicrous and absurd.

As to whether this Journal is one of "high standing"

or not, the writer has nothing to say; he is content to leave this question to others; but he will not, silently, allow any one to intimate that a work is disreputably conducted, on whose title-page editorially appears, by his request, the names of some of the purest and most distinguished members of the profession.

By an omission, much regretted, the name of Professor F. T. Miles did not appear in the advertisement of the Washington University Medical Department, Baltimore, Md., as published in the September number of this Journal. The addition of this gentleman to the Faculty brings increased strength and the fact is published with pleasure.

Mortuary.—Died in Charlottesville, Va., August 20th, 1868, of typhoid fever, Dr. R. B. Nelson, of that place. A prominent physician, a good citizen and a true man.

NOTICES.

Notice.—The issues of this Journal for January, June, July and August being exhausted, fifty cents will be paid for each number of the Journal, for these months.

BOOKS AND JOURNALS RECEIVED.

On Diseases Peculiar to Women. By Hugh L. Hodge, M.D., Emeritus Professor of Obstetrics and Diseases of Women and Children in the University of Pennsylvania. Second edition, revised and enlarged. Henry C. Lea; 1868. From the publishers, through Cromie & Sherrill, Louisville, Ky.

Diseases of Children. A Clinical Treatise, based on lectures delivered at the Hospital for Sick Children, London. By Thos. Hillier, M. D., Fellow to the Royal College of Physicians, Physician to the Hospi-

tal for Sick Children and to University College Hospital, London. Lindsay & Blakiston. Philadelphia, 1868. From publishers.

The Science and Practice of Medicine. By Wm. Aitken, M.D., Professor of Pathology in the Army Medical School. Second American, from the Fifth English Edition, 2 vols. Philadelphia. Lindsay & Blakiston, 1868. From publishers.

Second Report of a Geological Reconnaissance of the Southern and Middle Counties of Arkansas, made during the years 1859 and 1860. By David D. Owen, Principal Geologist. Compliments of Dr. M. K. Starke, Little Rock.

Illustrated Catalogue of Medical, Surgical and Scientific Publications. Henry C. Lea, 1868. From the publishers.

Our Defense; or, a Condensed Statement of Facts. By Rev. I. W. Emerson, Columbia, Ky. From Bell & Co., publishers, Louisville, Ky.

Recollections of the Paris Exhibition, 1867. By Eugene Rimmel. Philadelphia. S. B. Lippincott & Co., 1868. From Edward Greey & Co., New York.

Thèse De Pharmacie, per Armand Fumouze Docteur en Mèdicine. Pharmacien de 1re Classe, de la Cantharide Officinale. Paris, 1868. From Mr. E. Fougera, New York.

Who Discovered Anæsthesia? By S. Parsons Shaw. Manchester, England, 1868.

Thèse Pour Le Doctorat En Mèdecine Prèsente Et Soutenue. A La Facultè de Mèdecine de Paris. Par Thomas Layton, jr. Nè a la Nouvelle Orlèans, Louisiane. Docteur En Mèdecine de la Facultè de Paris. Laurèat de la Facultè de Paris. Etudes Cliniques sur l'Influence des Causes Qui Altèrent le Poids Corporel de l'Homme Adulte Malade. Compliments of the author.

Report on Surgery; a paper read before the Ohio State Medical Society, at its annual meeting, 1868. By W. H. Mussey, M.D.

Tenth Annual Announcement of the Chicago Medical College, 1868-69.

Transactions of the Medical Society of the State of Pennsylvania; Nineteenth Annual Session, 1868.

University of New York Medical Department. Annual commencement of Lectures. 1868-69.

The St. Louis College of Pharmacy. Fourth annual announcement. 1868-69.

Burke's Weekly, for Boys and Girls. T. A. Burke, Editor. Macon, Georgia.

Louisville Chemical Works. Catalogue of Solid and Fluid Extracts, etc. C. Lewis Diehl, Louisville, Ky., 1868.

Young Men's Christian Association, New York. Sixteenth Annual Report. 1867-68.

University of South Carolina Catalogue, 1868. Columbia, S. C.

The Physicians' Hand Book, 1869. By Wm. Elmer, M.D. and A. D. Elmer, M.D. W. A. Townsend & Adams, New York, 1868. From the publishers.

Medical College of Georgia. Augusta, Ga. Thirty-fourth annual announcement.

Louisville Municipal Reports for the Fiscal Year, ending December 31, 1867. Compliments of Phil. T. German, third ward, Louisville, Ky.

Chicago Druggists' Price Current and Chemical Repository. Sept. 1868. Vol. 1, No. 4. $1 00 per annum.

The Transactions of the New Hampshire Medical Society—77 and 78 Anniversaries, 1867-68.

The Commercial and Financial Chronicle. H. G. Bond, A Weekly Newspaper.

California Medical Gazette. San Francisco, Cal. Vol. 1, No. 1. $5 per annum.

Willamette University. Medical Department. Annual Announcement. 1868-69.

The Physicians' Visiting List. Eighteenth year of its publication. Lindsay & Blakiston. Philadelphia, 1869. From publishers.

THE RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—CATARACT OPERATIONS—THEIR HISTORY AND RESPECTIVE VALUE. By JULIAN J. CHISHOLM, M.D., Professor of Military Surgery in the University of Maryland School of Medicine, and Surgeon to the Baltimore Eye and Ear Dispensary, Lecturer on Ophthalmic Surgery, etc., etc.

The day is still within the memory of many surgeons, when the operation for cataract was considered of so doubtful an issue, that surgeons could give but little promise of permanent success to those who, living in darkness, desired relief. Sight, the most valued of the five senses, cannot be suppressed, without inducing an intense longing to be put again into communication with the world without; and the child-like dependence which the loss of this precious sense engenders, has, from the earliest times, excited the most lively commiseration and sympathy. When, therefore, this special blessing became dimmed and the afflicted groped about in an ever thickening fog, efforts were made to unvail their sight, and by drawing the curtain away from the window of the mind, to reëstablish those relations with the beautiful

world of light which those only can fully appreciate who have suffered similar privations.

Cataract, as a disease, had been recognized from the earliest existence of medicine, and an operation to restore sight to the blind is foreshadowed in the earliest traditions of India and China. When Hippocrates, our first medical historian, taught the God-like art of healing to his admiring and worshiping followers, four hundred years before the Christian era, he excited in them a contempt for the performance of surgical operations, as derogatory to the lofty study of medicine. This important department was thrown into the hands of specialists, who taking up a particular branch of surgery, would pursue their peculiar line of work. With the very dawn of Christianity, we find *oculists* pursuing their exclusive avocation in Rome, depressing cataracts by the operation then and still known as *couching* and promptly restoring sight to the blind by the use of the needle. Celsus, who was living in Rome in the beginning of the first century and Galen, who wrote in the second century, have both given us good descriptions of these specialists and their methods of treatment. The accepted pathology of cataract in those days was simple. Physicians believed that in the crystaline lens resided the sense of sight—and that the cloud which was perceived as the accompaniment of blindness, was a membrane or film which had formed in front of this sight, acting mechanically, as a curtain would when placed before a window. To draw aside this curtain and unvail the beauties of nature, was a consistent deduction from these data, and couching for restoring sight to the blind became the orthodox operation in the hands of these specialists. By fine cutting instruments and hooks, this supposed membrane was drawn behind the iris and a clear pupil restored.

Singular as it may appear, members of our profession,

in this, the middle of the nineteenth century, are no further advanced in the knowledge of eye diseases than were the surgeons in the time of the Cæsars. We have still cataract cases sent to us, with the stereotype phrase from the attending physician, of "a film growing over the sight," and many may still believe that in the lens resides all vision.

Up to within a few years, and for nearly two thousand years, couching was the only recognized operation for restoring vision, and was considered the perfection of scientific attainment. It was easy in its performance, safe in its effects and wonderful in its results. It was only necessary for the skillful hand to touch the eye with the magic needle and it was made whole from that very moment. What more miraculous, than in the twinkling of an eye, the blind were made to see. Was relief ever more instantaneous and benefits conferred ever more valued? Great results are, at times, attained through severe trials and laborious application; but here was one of the greatest blessings of life dispensed from many hands.

The operation of couching was a simple one, requiring no special skill and accompanied by no visible mishap. Any physician can thrust into the eye a needle and pull away the offending curtain. Grant that he should, in this act, stir up the contents of the globe and entail future trouble, all of this deep injury would be buried in the eye, unnoticed by the observer and often not recognized by the operator. Sight having been speedily restored to the blind man, the surgeon would be overwhelmed with expressions of gratitude. The operator did not look beyond the present nor inquire into the future prospects of the patient. Some time after the case had been discharged, troubles would come, but as cause and effect were not traced, the after blindness was attributed to a

new disease or recognized as an evidence of God's displeasure and in no way connected with the previous operation. As the deep-seated and destructive inflammation would make insidious approaches, it excited no suspicion towards the surgeon. When surgery was a crude occupation and disaster the common companion of those who pursued it, this operation for the removal of cataract with its large per cent. of immediate benefits was extolled as the sun beam of surgical excellence. What more could the most scrupulous wish for? Could surgery have any greater triumph?

Surgeons remained in blissful ignorance of the pathology of cataract until Kepler, in 1604, demonstrated that the crystaline lens was not the organ of sight, but only played the part of a lens. Soon after this period dissections were legalized and examinations of diseased eyes located cataract in the lens substance. Bresscau Fils, 1705, presented a memoir to the "Academic," on the subject of the crystaline lens, exhibited specimens of cataracts as opaque conversions of this body and proved that this lens, although very important, was not essential to sight. From that time surgeons have recognized the fact, that in the operation of couching for cataract, they were no longer removing the concrete humor which in consolidating, had covered the anterior surface of the crystaline, as with a vail; but that they were thrusting from its normal position the lens itself, which had degenerated into a hard opaque mass, impeding the admission of light to the retina. This, as a part of the living body, they concluded would give no trouble wherever placed and as useless parts, or those not used invariably shrink away, they hoped the same for this body which they drew out of the line of vision and thrust into the large vitreous chamber. It was expected that time would effect its removal by absorption and that the sur-

rounding living tissues would ignore its presence. How well or badly nature carried out the design of the surgeon the sequel will show.

The couching of cataractic lenses continued to be performed up to our own time by ophthalmic surgeons, and is still practiced by the general practitioner, who can not keep up with the advances daily made in ophthalmic surgery. From minute research and closer observation much certainty has been reached as to the way in which lenses behave when displaced from their natural location. It was formerly thought that the eye, after the couching operation, was nearly perfect, minus the lens, which could be supplied from without. This successful result depends upon so many contingencies that it is seldom obtained in practice.

The lens does not retain its position in the eye by accident, but is hung up in its enveloping or protective capsule, and secured immovably by its suspensory ligament. In many old cataracts, whilst the capsule becomes tough, the suspensory ligament becomes atrophic and yields readily to the slightest traction; so that the depressing needle thrusts the lens in its capsules, to the bottom of the eye, and thus protected, there it stays unchanged, even for years. Should this protecting envelope have been more or less freely lacerated or the lens be completely tilted out of it and lie exposed to surrounding influences, the disappearance of the lens would be more or less rapid and complete, depending upon its size and hardness.

We find the experience of pathological anatomists in accordance with these facts. Prof. Velpeau examined the eyes of twelve persons who had been operated upon, by couching, at intervals of from one to four years after the operation. In only one case was the lens sensibly changed or diminished in size. Beer found the lens in

one case twenty years after it had been couched. It was smaller than its normal size, but had not disappeared. Beer also reports the following case as occurring in the practice of M. Hilmer. An old patient, who had been couched thirty years, fell upon his head, when the unabsorbed lens was loosened from its position by the shock and ascended again into the field of the pupil. In many instances lenses have been found lying free in the vitreous, still firm and only slightly contracted, and their capsules without any appearance of undergoing maceration. In other cases after years of interval between the operation and the post mortem examination, only remnants of the lenses have been found, showing that under certain conditions, if time be given, they will disappear. Sœmerring publishes a case in point, where eighty-seven years after the couching operation, only a small nodule, representing the remains of the lens, was found adherent to the ciliary body. The accumulated evidence of careful observers establishes the fact, that under the most advantageous circumstances, couched lenses are absorbed slowly.

Another fact equally established by anatomists, is, that whenever a portion of the body is isolated from its natural position and is located elsewhere in the body, it becomes foreign matter and often behaves as if an outside substance had been taken. Such foreign substances always disturb the functions of, and, finally excite change in the structure of the living parts, in which they have been placed. The lens in the eye is no exception to this rule. When isolated in the capsule and suspended by its ligament, with its normal relations, in its special location, it remains an important integral part of the eye, and, of course, produces no trouble. When this isolation and these relations are destroyed and the lens is tilted backwards or drawn downwards into the vitreous chamber, it plays the part of a foreign body to the structure in which it has been embedded and upon which it

is pressing. As surely as the thorn excites inflammation in the flesh, so surely will this lens excite inflammation in the chamber of the eye. The inflammation may not be acute and rapid, but will be none the less destructive to vision.

In many of the eyes destroyed by inflammation after the operation of couching, the hard unchanged lens was found resting upon the retina, or, in some cases, even thrust through lacerations of this membrane and lying adherent to the choroid and sclerotic coats of the eye. In other cases the lenses, more or less changed, have been been found firmly attached by inflammatory processes to the ciliary body. This was, probably, their most frequent condition.

The common, obvious and, therefore, very annoying accident, after couching the lens, was to have it uprise again and fill the pupilary space as soon as the pressure by the needle was removed. Hence, it became an important step in the operation, after depressing the opaque lens below the pupilary border and clearing the field, to try and hitch it in the most inferior portion of the globe, so that it would remain there and neither ascend when the needle was removed nor at any future period. As exemplified in the case, which we have already reported from Beer, experience proved that the unabsorbed lens might show itself in the pupil at any time, even thirty years after its depression. The thrusting of the lens as deeply as possible in the vitreous chamber, and attempt at securing it in that position, entailed with certainty injury to the ciliary processes, choroid and retina. Trying to escape from one obvious accident, necessitated serious and even fatal injury to the most sensitive parts of the eye. In some cases, from injury to the ciliary or iritic vessels, the eye would fill with blood during the operation. Again, injury to the ciliary nerve, or per-

haps, the pressure of the hard lens upon the retina, would induce the most distressing vomiting, and often intense pain would locate in and around the globe.

In the majority of cases, however, there would be no immediate trouble. The result of the operation of depressing the lens would be most satisfactory and the surgeon would discharge his grateful patient with good vision. But after some months (from three to thirty) complaints would be made of losing ground which a change of glasses could not correct. Sight would become dim and the gradually thickening fog, with or without pain, would finally leave the patient in irremediable darkness.

These serious accidents suggested to surgeons in more modern times a modification of the couching operation, by which they expected to avoid all the dangers and yet, at the same time, retain all of the good results. The new operation of *reclination*, consisted in first tearing freely the posterior capsule, then tearing a broad passage into the vitreous, and finally, in tilting backwards or upsetting the lens, denuded of its capsule, through this open way into a bed torn for it, in the gelatinous vitreous. It was expected that the lens would remain suspended below the pupilary border, and yet at no point touch the retina. This operation, practiced up to within a few years by the most skillful surgeons, did not meet the expectations claimed for it. The same unfortunate sequelæ which so commonly followed the depressing of the cataract, still showed themselves in the wake of reclination. Sooner or later there would be a second loss of sight with amaurosis or glaucoma, complicated with, more or less, irido-choroiditis and circum-orbital neuralgia, to remove which blindness nothing could be done.

Still attached to this favorite operation, some surgeons located the cause of the dangerous sequelæ, not in the new position of the lens, but in the irritation induced by

puncturing, with the sclerotic, the very sensitive retina and ciliary body. These substitute for the sclerotic puncture an opening through the transparent cornea. This modification only added to the difficulties of depressing the cataract from the field of the pupil, without in any way diminishing the danger.

During the past few years ophthalmology has attracted the special attention of some of the most learned medical men in Europe, and on that account made more rapid progress than any other branch of medicine. These careful and honest observers soon established a fact which others had before noticed, viz: that, in the majority of cases, the couching operation, either by depressing or reclination, would be followed immediately, by the most satisfactory results. Good sight could be at once restored to the blind, but this sight could not be preserved. It was evanescent and not reliable. It may last for a few weeks, months or years, but was prone, at variable undetermined periods, to become again dim; and that eventually, in many cases, more would be lost by the operation than had at first been gained. In these, clouds would slowly, irresistibly envelop the patient and becoming thicker and thicker, leave him finally in utter darkness. At time, the deprivation of sight would be more rapid, accompanied by frightful sufferings. After couching operations, not over fifty per cent. of cases retain good sight for any length of time and even these are in constant danger of losing it, not knowing at what time troublesome symptoms may show themselves.

With our present knowledge of the physiology and pathology of the eye, we can readily understand how this perfect operation of former times, was very ill-advised, irrational and faulty. This very favorite operation has deservedly lost caste and is being rapidly discarded by ophthalmic surgeons. It is now generally condemned

by all authority on eye diseases, as an operation fraught with danger, and in the latest treatises on eye diseases, either very little is said of this method, or it is altogether omitted as an operative procedure. By leading ophthalmic surgeons, it is classed among the bad operations of an ignorant past age. It has still a charm for the general practitioner, who, doubtful of his surgical prowess and ambitious of attaining a position to which he is not entitled, performs this operation because he believes it simple. The proper and safe operation of extraction of the cataract is too nice and dangerous to be undertaken by any one who has not made himself a master of the subject; and yet such is the enviable fame associated with the physician who can restore sight to the blind, that many in ignorance, do not hesitate to do what the wise recoil from. These are content, if by chance, they could restore sight for a short period, even should it again be irrevocably lost soon afterwards.

When couching for cataract was considered the only available method for curing blindness, the operator must have often noticed the different consistency of lenses; how some were fluid and others solid; some hard and others soft; some tough and others pasty. Some, when touched by the needle, would disperse themselves in a milky cloud, which would diffuse itself through all the clear portions of the eye. Other lenses under the depressing influence of the needle, would go down in mass, like the setting moon, leaving a clear black pupil above it. Others again, although not fluid, would break up under the pressure and fragments would float up into the field of the pupil in spite of every effort on the part of the operator to keep them below the pupilary border. They also must have seen, that in time, these floating masses would slowly disappear. Careful observation would also have taught them that such cases were often

their most successful ones, not giving them such immediate good results, but much more persistent sight.

We have no reason to believe that the advantages of this condition were recognized, and that attempts were made to cause the lens to be dissolved and absorbed in situ, prior to operations performed with this object in view by Richter, in 1773, and later by Beer, in 1792, nearly one hundred years after the true pathology of cataract had been exposed. In 1797, Couradi established the operation by division of the lens, which Langenbeck popularized in 1811. The object of this new operation was to denude the lens of its capsule to such an extent, as to permit the free communication of the common solvent the aqueous humor, so that this hard mass would be softened and finally dissolved to disappearance. It was believed that fissures in the lens substance would facilitate the free access of the aqueous solvent, and hence the lens was broken up or divided by the needle. During the process, in certain cases, fragments would accidently fall into the anterior chamber and would be seen to diminish in size from day to day. Similar changes were known to take place behind the iris, where all portions of the opaque lens would gradually melt away.

As good results, with permanent sight, were obtained by this new method, it became a favorite one with many surgeons. Experience soon showed that the per cent. of success depended, in a measure, upon the mode of introducing the needle. When the very sensitive and vascular ciliary region was traversed by the needle, results somewhat similar to those from the old couching operation sometimes followed; and, although, the absorption of the broken up lens would leave a clear black pupil, amaurosis or glaucoma, in the meantime, would have destroyed sight. These accidents seldom follow a puncture through the cornea, therefore, this method of getting at the lens was

exclusively adopted. It was again found, that some cataracts disappear much more rapidly than others, and that the readiness of solution depended upon the consistency of the lens. It was also noticed that the cataract was always more or less fluid in young persons, in whom rapid cures were obtained. Surgeons were, therefore, disposed to restrict the operation of solution, by division, to persons under twenty years of age.

Recently this operation has been so generalized that all cataracts have been attacked in this way and even the hardest have, in time, been made to disappear; not by one, two or three punctures, at intervals of a fortnight, but by ten, fifteen or twenty punctures made at longer intervals. Where the cataract was fluid, as in children, a complete disappearance of the opaque obstruction might be effected in three or four weeks. In the hard cataracts of old age it might require a twelve month to obtain the same results. When the cataract is fluid, the lens substance has been converted into a milky substance contained in the thin capsular bag. Upon puncture, this milky fluid runs out and the ruptured bag collapses, its ragged fragments, either being drawn behind the pupil or requiring a second introduction of the needle to push them out of the line of vision. Should the lenticular substance be soft, the opening of the capsule and laceration of the lens bring aqueous fluid into communication with it and a ready inhibition goes on, which swells up the lens. The extent of this imbibition and swelling will depend upon the density of the lens substance and the freedom of the communication with the aqueous fluid. A hard lens imbibes but slowly, and therefore, swells but little, and a fluid lens does not swell at all. It is in the rapidity and extent of the imbibition and consequent swelling of the lens, that the danger resides in the division operation by keratonyxis or corneal puncture.

In the normal healthy condition of the eye, the lens lies in contact with the iris, which is being continually dragged over its capsular surface, with every change of light, viz: during dilatation and contraction. Over the perfectly smooth, soft and lubricated capsular membrane there is no friction nor irritation. When the lens has been broken up by the needle and an irregular imbibition has taken place, these swollen particles not only press the iris injuriously forward, but irritate its very sensitive uveal surface. The result is inflammation or iritis, which, if not controlled, will cause active proliferation and adhesion between this surface and the thickening capsule, and finally close up the pupil altogether. This inflammation may extend from the iris to the ciliary processess, choroid, retina, and even hyaloid structure of the vitreous, and by excessive internal vascular pressure with intra-ocular tension, (a condition known as glaucoma), or by retinal disease (amaurosis) destroy permanently all hopes of vision.

The depth and superficial extent of the lens opening, requires, then, much experience and skilled judgment. Too little retards the cure and too much insures inflammatory and ugly complications. Hence the recommenddation of doing as little as possible in the first operation, probably only puncturing the capsule in three or four places and its portions of the surface of the lens dissolve away and its bulk diminishes; we may attack the remainder with much more boldness. Græfe, who is the highest authority on eye surgery, has recently laid down rules for proportioning the size of the opening in the capsule and subsequent swelling of the lens, so that no greater internal pressure will be excited than the eye can safely bear.

Langenbeck, in 1811, used belladonna for dilating freely the pupil so that there would be less danger of per-

forating the membrane. Now, surgeons continne its use with a different object. The great danger in the division operation for cataract is iritis, with complications from the extention of the inflammation to contiguous and important structures. This iritis is excited through mechanical irritation by fragments of the lens which protrude through the ruptured capsule. It is found that when the pupil is kept permanently aud fully dilated by belladonna or its active principle, atropine, it is so drawn away from the anterior surface of the lens, as only to be touched by its very edge and most of the injurious pressure is thereby avoided. This excessive dilatation is now kept up as long as there is any swollen lens substance to be absorbed.

The iris is a very eccentric membrane, under certain conditions resenting what appears to be a very trivial irritation, and yet again permitting many rude liberties. In the hands of skillful oculists portions of the healthy iris may be cut out with little fear of dangerous complications, one might nearly say with impunity; and even the entire iris has been accidentally torn out without evil consequences. From these data, viz: the facility of excision of portions of the iris and the tendency of the iris to inflame, when compressed by a swollen, broken up lens, a modified discission operation has been devised which gives excellent results. By it the eye is prepared for the removal of the cataract by taking out an upper segment from the iris. This section involves its entire breadth, from pupilary to ciliary border, and when perfected the sphincter or the compressing and contracting muscle of the iris is permanently paralyzed and the pupilary space enlarged and elongated, even to the periphery of the cornea. In three or four weeks, when the eye has quite recovered from this preparatory operation, the lens is attacked, the puncture and lacerations, through its

capsule and into its substance being carefully restricted to the enlarged immovable pupilary field. Should the fragments in swelling, protrude from the openings in the capsule and even hang out into the anterior chamber, as I have seen them do, they touch no part of the iris and no inflammatory trouble results. This condition of the lens only ensures the more free maceration in the aqueous humor and a more rapid absorption. Restricting the laceration to the pupilary opening, avoids all injurious pressure by swollen fragments of the crystaline.

This absorption, however rapid, requires time, and efforts have been made to hasten the cure. Very recently, Mr. Teale has suggested a plan of sucking out cataracts when they have been freely macerated and softened by previous division. He introduces a hollow curette with india rubber tube attached, through a needle puncture in the cornea and sucks out the diffluent lens which had been broken up four or five days previously. There is no novelty in this suggestion. In narrating the condition of eye surgery in the fourth century, Albucasis informs us that on account of the difficulty in depressing cataracts with the needle, surgery had devised a plan of sucking out, through a hollow needle, the congealing fluid, and that this method of operating was extensively used by the Persians as well as the Romans. It has been revived again and again, only to be discarded. It possesses less advantages than it has inconveniences. Its action can only be satisfactory when the entire lens is diffluent, and as this milky fluid can readily escape with the aqueous through the corneal puncture, there is no need of suction. Hard fragments can not be sucked out and are continually clogging the hollow curette, demanding its removal and reïntroduction. Unless great care is used, the cornea or iris is injured by being sucked into the curette opening and either corneal opacities or iritis induced.

It is very much better to make a little larger opening in the cornea which will not increase the dangers and let the softened lens run out. Such is the operation now recognized as the simple cornea operation for the removal of cataract. It possesses this very decided advantage over suction, viz: that the cornea and iris are not exposed to injury and that foreign bodies are not introduced into the eye; and that the more or less bruising of the cornea and iris by the introduction of the curette is avoided.

At first this operation of extracting the lens, through a small incised wound in the cornea, was restricted exclusively to fluid or very soft lenses. These could readily escape through the corneal opening made by the broad needle, aided perhaps, by the introduction of a grooved director. The success of this method would depend altogether upon skillful and accurate diagnosis.

Should the lens, after the free laceration of the capsule, be found too consistent to flow, or the nucleus hard, whilst the cortical portions were fluid, the presence of these retained portions in free contact with the iris, would insure iritis, a dangerous and often a fatal complication in cataract operations. Grave symptoms, with iritis, would also arise, should the edges of the corneal opening be irritated by the laborious passage of hard fragments of the lens through the small linear wound.

To Gibson, of Manchester, England, are we indebted for the generalization of the linear section and its adaptation to all cataracts. He suggested that the lens should first be softened by decission or the needle operation, and that when diffluent or sufficiently softened, say, in from six to fifteen days, it should be allowed to run out through an opening made in the margin of the cornea. The main object of this operation was to make no demands upon the resorbent powers of the eye and to hasten the desired re-

sult—restoration of vision—whilst the dangers of repeated puncturing were avoided. When skillfully and judiciously performed, the results are very satisfactory. The chief danger lies in iritis or glaucoma, excited by the swelling of the lens, through too free imbibition. Gibson tried to avoid this danger by moderating the extent of capsular laceration in proportion to the consistency of the lens to be destroyed. In certain cases he would break up the capsule and lens over two-thirds of the dilated pupilary opening; in other cases, he would restrict the preparatory operation to making a few rents in the capsule, and corresponding scratches in the lens substance, or even to a few punctures through the capsule. In all cases he would keep the pupil fully dilated with belladonna, so as to avoid bruising it during the needle operation and escape, subsequently, injurious pressure from the swelling of the lens.

A still further modification consisted in making the corneal opening at least a line from its scleral border, and then pass in the knife so obliquely that the grooved director, when introduced to facilitate the ready discharge of the floculent mass, would rest solely upon the edges of the corneal wound and would in no way touch the iris. The size of this wound he also proportioned to the apparent consistency of the lens. Still iritic accidents arose, notwithstanding the most vigilant care, and indifferent sight was preserved in a considerable per cent. of cases only after great danger and much suffering.

Graefe proposed the combination of iridectomy and linear extraction which perfected the operation and made it capable of yielding its best results. This iridectomy was made simultaneously with the breaking up of the lens by some surgeons, but as the swollen fragments were found to irritate the rear edge of the enlarged pupil and excite iritis, it was deemed safer to make three periods

in the operation, viz: first, perform iridectomy, some days afterwards freely break up the lens in the site of the extended pupil, and, when from the uniformly milky appearance of the lens, it was supposed to be sufficiently softened, open the cornea and allow it to flow away. This operation is safe, giving good results, but is objected to as unnecessarily tedious.

The study of the ophthalmic surgeon at present, is to get rid of the lens at once with the least risk, and restore perfect vision in the greatest number of cases. The operation, which they most desire, is to obtain a speedy and safe extraction of the cataract. With many of the operations in surgery revived in modern times, we find surgeons of a former age more or less intimate. Many centnries before the pathology of cataracts was known, even in the very distant past, when it was supposed to be a fluid between the anterior capsule of the lens and the uveal surface of the iris, which gradually consolidates, so as to vail the anterior surface of the crystaline, operations were devised and practiced for extracting this concrete humor. We read of such extractions of cataract towards the end of the first century, and afterwards find them discarded on account of the many sad accidents which immediately accompanied them. The extraction of cataracts gave way to the apparently safer operation of sucking out the humor, or the still better one, of depressing it, when it had, apparently thickened into a film or membrane. In the latter half of the seventeenth century, when surgeons had learned the anatomy and pathology of cataracts, the propriety of getting rid of this opaque body again suggested itself. A case occurred to J. L. Petit, in 1708, in which this operation was successfully carried out. Having performed the usual operation of couching for a hard cataract, the lens floated up again, (a common accident), and being now

quite free of all restraint, squeezed itself through the pupil and fell into the anterior chamber. Petit boldly opened the cornea and drew out the hard, free body.

Guided by this case, Davriel, sometime afterwards, seized the idea and so successfully applied and popularized the method that, by 1752, he had extracted 206 cataracts, of which 182 were successful. Davriel's operation consisted in puncturing the lower segment of the cornea with a lancet shaped knife, enlarging the opening by thrusting in a blunt knife of similar wedge shape, so as to avoid injury to the iris, and then completing the incision by means of a bent probe pointed scissors. The incision followed the lower periphery of the cornea for more than one-half its circumference. The large corneal flap was turned up by a spatula, the capsule freely opened by a needle and the lens severed from its position with the aid of a curette. A single lancet shaped knife was substituted for these many instruments. It was entered from the temporal border of the cornea, thrust directly across the anterior chamber, making its exit at the nasal border of the cornea. By pressing it then downwards, it completed the flap section of the cornea, making a crescentic incision parallel to its inferior border.

Up to this time French surgeons alone had adopted and modified the flap extraction. Richter, in Germany, took up the subject in 1771, modified the form of the knife so that the corneal incision could be completed in one thrust before the aqueous humor could escape, and also, established precise rules for the extraction of cataracts. Beer, from 1792 to 1817, perfected this operation, giving us the model of the knife which we now use, and the method of extracting cataracts by the simple flap operation as now followed. He also urged its substitution for the dangerous and irrational operation of couching, which continues still in favor. The generality of

surgeons were not disposed to trust themselves to perform this most beautiful, but also most delicate, difficult and dangerous operation. To make so large an opening into so delicate an organ as the eye required more composure than the majority possessed. "To divide circularly with a knife a membrane enclosing a fluid, which fluid is not to be evacuated till the section is carried to the extent of a semi-circle, and within which fluid is suspended an other and a movable membrane which is neither allowed to be displaced, nor in any way to be injured in the execution of the section, is a mechanical problem necessarily difficult."

Among surgeons of skill and experience this extraction operation, rapidly became a favorite method. They recognized the great danger of the so freed section of the cornea and regretted the number of eyes which they put out in learning this difficult manual, but were delighted with the permanent restoration to sight which these successful cases enjoyed. It was the danger of extracting through so large a flap and the recognized defects of the couching operation, that induced Langenbeck and others to introduce the breaking up of the lens with a view to its ultimate absorption, which operation we have already traced through many modifications.

It is chiefly within the last ten years, and more especially within the last three, that ophthalmic surgery has made such rapid progress as now rightly to be considered in advance of all the other branches of medical or surgical sciences; and that this dangerous and difficult operation of restoring sight to the blind has become the most successful of all capital operations.

Although the flap extraction always gave superior results to the operation by couching, observation indicated certain grave defects as exemplified by accidents, which occurred not only during the operative procedure, but also

followed after the extraction even when most skillfully performed. The first of the accidents was the too early escape of the aqueous fluid, before the eye had been transfixed. In the too early emptying of the anterior chamber the escape of the aqueous fluid carries with it the iris, which membrane is thrown into folds over the edge of the knife and is in imminent danger of being divided, should the corneal section be completed. The loss of the supporting fluid would also make the cornea flaccid and increase the difficulties of a regular section.

A second accident is occasioned by too small a corneal opening which necessitates excessive pressure upon the globe, to effect the laborious delivery of the hard lens. In its passage the lens compresses and contuses the corneal edges and induces a suppurative inflammation, which once established, puts to flight all hopes of union of the flap by the first intuition. Suppuration commencing at the bruised edges of the corneal wound, rapidly extends over the entire corneal surface, converting this transparent membrane into a mass resembling wet chamois leather. Whilst these inflammatory changes are going on, the lids swell and the eye becomes painful. After a few days the cornea sloughs, the fluids of the eye escape, and with collapse of the globe the eye is lost. In a few cases this suppurative inflammation limits itself to the immediate vicinity of the wound and a final closure of the corneal opening is effected by granulation, with its broad opaque white line of cicatrix to be sure, but with the rest of the cornea two-thirds or three-fourths its surface clear. This fortunate result is seldom expected and rarely obtained. Once inflammation is fairly established, it usually runs its destructive course, irrespective of treatment. A want of proper adaptation in the lips of the wound is also a cause of suppuration.

Another danger in cataract extractions is injury to the

iris during the delivery of the lens, with subsequent iritis. This is perhaps the most common accident after extraction operations. However thoroughly the pupil may have been dilated by atropine, prior to the opening of the anterior chamber, the escape of aqueous fluid is always accompanied by immediate contraction of the pupil. In the laceration of the capsule the iris is sometimes injured by the cystotome. This may be considered as the result of bad manipulation, and the subsequent iritis as a product of bad surgery. The pressure necessary to dislodge and deliver the lens, especially through a small corneal flap has sometimes detached the corneal border of the iris from its attachment to the ciliary ligament; a rare accident for which there is no remedy, except in iridectomy.

A constant trouble in flap extraction is the presence of the iritic septum, with its contracted pupil, which mechanically interferes with the ready escape of the lens from the posterior chamber. This iris has to be pushed in front of the escaping lens, and must submit to more or less squeezing against the hard edge of the corneal opening. This sensitive membrane resents such injury, and inflammation is the consequence. This is not always destructive to vision. Often it is only slight, forming partial adhesion between the pupil and remnants of the capsule, or it may glue up the pupil altogether. If the iritic inflammation is not more extensive, these sequelæ can be readily overcome, and by tearing open the pupil by a secondary operation, after all irritation in the eye has subsided, good vision may be restored. Inflammation once established in the iris, may not restrict itself to this surface, but extending over the ciliary process to the choroid and retina, either impair materially the functional sensibility of the eye or cause a general suppuration of the globe. The contracted pupil may also detain and conceal fragments of the cortical portions of the lens, which will irritate and excite iritic inflammation.

The pressure necessary to dislodge the lens retained by a contracted iris and force it through a simple corneal opening will, in some cases, rupture the hyaloid membrane and zonula, and permit the more or less free escape of the vitreous humor. Again the large flap involving one-half of the circumference of the cornea, might have its vessels so interfered with, as to impair its nutrition and bring about its death by sloughing. During the exit of the lens and the excessive gaping of the wound this large flap may be turned over and rolded down with a deep crease. This folding might interfere with the nice adjustment of the edges and offer a barrier to healing by the first intention. This perfect adaptation of the lips of the large flap would also be prevented by any excesive loss of vitreous and consequent folding inwards of the cornea and sclerotic and collapse of the eye. The heavy loss of vitreous and removal of the proper support to the intra-ocular vessels permit rupture with posterior hæmorrhage and also separation of the retina from the choroid, both most serious complications.

Should all of these dangers have been fortunately avoided and the patient be put to bed with the best prospects for success, every thing may go on well for forty-eight hours and the surgeon hope that his patient is nearly out of danger, when a sharp stabbing pain would be felt, accompanied by a gush of hot tears. This sudden escape of aqueous fluid through the corneal wound, which has been reöpened at some weak point, on account of increased internal tension, carries with it a portion of the iris and leave it protruding through the cornea, (prolapse or hernia of the iris.) This accident always excites painful, tedious and dangerous complications, in every case impairing vision, and at times, destroying all hopes of sight.

These are some of the accidents which the most skill-

ful manipulation can not always prevent. With the full knowledge of these dangers, ophthalmic surgeons applied themselves to devise means for avoiding them. It was necessary to make a large opening to permit of the ready escape of the lens, without bruising the cornea, and yet the length of the flaps was recognized as a great source of danger. Wardrop suggested the straightening of the incision so as to make a linear section instead of the flap; and Desmarres, in 1859, using the shorter linear section of Wardrop, broke up the lens and extracted it piece meal, by means of a curette. These experiments, although in the right direction, were not successful, and therefore were not adopted. With the smaller linear opening there was no fear of the folding down of the flap nor of the non-adjusting of the edges, but more pressure was needed to squeeze out the cataract, which entailed additional dangers from injury to cornea, iris and vitreous. Desmarres, by his process of breaking up the lens and extraction, by curette, through a smaller corneal opening, escaped all the dangers from pressure, but did so much injury to the iris by the manipulations of the curette through the contracted pupil, as to insure dangerous iritic inflammation.

To Graefe are we indebted for a solution of this very important problem: "How to escape many of the dangers in cataract operations;" and for a rational definition of the steps necessary for success. These are clearly put down: "First, to diminish the large dangerous flap wound and make it as straight as possible. Second, to facilitate the escape of the lens in its entirety by aid of an artificial enlargement of the pupil."

It had become an established fact that portions of the iris might be cut out, not only without risk, but that the very removal of a segment would so affect the nervous influences within the globe and consequently the blood-

vessels, as to protect the eye against hyperæmia and inflammatory inroads. When it was also known that a chief source of trouble in cataract extractions arose from the iris which was bruised during the escape of the lens, surgeons commenced to cut out that portion of the iris which was in the way. Iridectomy is the great improvement in modern ophthalmic surgery, as by its introduction we escape the greatest number of accidents. When a segment of the iris is taken out, it leaves a flaccid septum which can offer no resistance to the escape of the lens. That portion of the iris is removed which would have been bruised by the escaping cataract, and inflammation from this cause is avoided. It offers a large opening through which the capsule can be extensively lacerated without injuring the remaining portion of the iris. It exposes the suspensory ligament of, and the very border of the lens, so that the cataract can be slid out of its position in a line nearly continuous with the plan of its bed. It renders unnecessary that tilting forward of the upper edge of the lens, to deliver it in the line of the contracted pupil, the lower edge of the cataract necessarily being thrust backwards in like measure stretching, and often rupturing the zonula and hyaloid, and permitting loss of vitreous. All of these very great advantages were obtained without corresponding risk. Experience of nearly a century had shown the removal of a segment of healthy iris to be nearly a harmless mutilation.

The operation of cutting out a portion of the iris had been introduced by Wenzel, in 1780, for the making of an artificial pupil. It had been, for some time, in use in the operation for traumatic cataracts, with iritic adhesions, when Graefe, in 1856, recommended its application to ordinary extractions. He advised its performance some weeks before the extraction. Mooren, in 1862, urged this preparatory operation in all cases, but more

especially where the successful restoration of sight was doubtful, as in many old people with marasmus, or in those suffering from kidney disease, or in cases where the eye was not in a healthy condition either from glaucomatous complications or iritic adhesion. The advantages promised by this early iridectomy, two or three weeks before extraction, are: First, the facility of nicely performing iridectomy through a smaller corneal opening than would be required in the removal of the lens. Second, the correction of the internal tension, with tendency to loss of vitreous, collapse of the eye and internal hæmorrhages in the glaucomatous case. Third, less irritation of the edges of the iris when healed over. Fourth, no blood in the anterior chamber to mask the lens and the movement of the cystotome. Jacobson, in 1863, urged that both operations should be performed simultaneously, and states that many of the advantages proposed for the early iridectomy were hypothetical.

Having made such rapid strides towards perfection by the introduction of iridectomy in cataract extractions, the next step was to so modify the size of the flaps as to diminish the dangers induced from this source. The shortening and straighteniug of the corneal incision we have already seen, had been unsuccessfully practiced by by Wardrop and Desmarres, and had been discarded on account of the injuries inflicted upon the iris. When iridectomy was introduced and all thc intervening iris removed in advance, ophthalmic surgeons resumed the shorter, straighter wound in the cornea. To facilitate the delivery of the lens without exercising injurious pressure upon the globe of the eye, a hook was introduced through the wound and firmly embedded in the cataract by which both leverage and traction could be applied. A spoon curette, modified from time to time by Graefe, Waldau, Bowman, Critchett, and other leading ophthal-

mic surgeons, was used instead of the hook. By these surgeons a sperical lancet shaped angular knife was introduced for making the corneal wound.

These modifications were recognized as improvements, and the per centage of successful cases, after extraction increased, but perfection had not yet been attained. The angular knife made an irregular wound and accidents were supposed to arise from the introduction ot the spoon lever behind the lens, upon which the cataract was drawn out of the eye, in the traction operation.

These objections to the prevailing operation led Graefe to devise his method or modification of the linear extraction, from which the best results are now obtained. He opens the eye from above with a straight narrow knife, instead of the broad knife of Beer, and gives as much length as possible to the wound by inserting the point through the opaque border of the cornea. He makes the wound slightly oblique, yet tries to confine it to the sclerotic ring, immediately anterior to the iris. He then removes a small segment of the iris from the vertical axis of the eye, corresponding with the opening, and thereby exposes the suspensory ligament of the lens. After free laceration of the capsule and a little coaxing pressure with the curette upon the eye, the edge of the cataract presents at the opening and the body quietly glides out, or it may be helped out by a hook. The advantages of the wound made, according to his plan, are: First, that it can not gape; and, secondly, rapid union is assured. In making this section the line of incision is restricted to the scleral or opaque portion of the cornea, and when the knife completes the section of the cornea, although it is just in front of the ciliary ligament, it lifts the loose conjunctiva, a small flap of which is left adherent to the cornea. When the extraction is completed, this conjunctival flap is laid smoothly in apposition with

its contiguous mucous membrane. It heals in a few hours, and acting as a suture ensures thorough apposition and protection of the corneal wound. Desmarres had suggested the use of the conjunctival flap to prevent gaping and hasten quick union, and had experimented with it extensively in connection with flap extractions.

One of the difficulties in these many modifications of the extraction operation for cataract, is the removal of the entire lens. Unless complete maturation of the cataract has taken place and entire solution or degeneration of all of the cortical matter, it is found that some very large cells remains adherent to the inner face of the capsule. These, physiologically, may be sources of healthy lens fibres. After extraction operation, they take on proliferation and are supposed to be the active cause of iritic adhesions and pupilary closure, called secondary cataracts. We are only sure of no trouble from these débris of capsule by the removal of the entire lens in its capsule, and this forms the peculiarity of the special method of Pagenstecher, of Wiesbaden. The suggestion is not original with this distinguished oculist, but was urged in the infancy of cataract extraction by Richter, in 1773. Beer, in 1799, published rules for extracting the lens and capsule entire by lacerating its suspensory ligament. From time to time this operation has again been urged by ophthalmic surgeons, and has very recently been taken up by Wecker and Pagenstecher.

According to Pagenstecher, the dangers in extraction depend principally upon corneal suppuration or iritis, the former due to the location of the incision, the latter to the irritation arising from the retracting capsule, swollen cortical remnants, or from changes in the intracapsular cells. By adopting Jacobson's method of locating the corneal wound in the scleral border or opaque portion of the cornea, suppuration can be avoided. The

value of this suggestion is now generally acknowledged and acted upon by most ophthalmic surgeons. The later iritic complications are avoided by removing the lens entire in its capsule. This opinion is also gaining adherents.

In this method Dr. Pagenstecher prefers the downward corneal flap, which was also the favorite section of the early oculists. He makes it full size, nearly one-half the circumference of the cornea, confining the line of section strictly to the sclerotic portion of the cornea and leaving a conjunctival bridge, as recommended by Desmarres. A large segment is taken from the iris. Gentle pressure is then made upon the globe, and in most cases, the suspensory ligament gives way and the lens escapes in its capsule. If the ligament does not yield, a small silver hook is introduced through the hyaloid membrane where it projects into the wound, the suspensory ligament extensively torn, a spoon introduced behind the cataract and the entire lens removed. For this operation, he recommends complete anæthesia by chloroform, and under the complete relaxation, he reports no loss of vitreous, although the hyaloid membrane is so extensively lacerated. In Wecker's experience, vitreous is nearly always lost, but to no injurious extent. A loss of one-fourth or one-eighth of this fluid is not incompatible with excellent vision.

Pagenstecher believes that in his modification of extraction all the requirements of a cataract operation are met and the greater number of dangers avoided. The large flap wound gives ready exit to the lens, and in making it downwards, there is no fear of the folding back of the flap. The tardiness in union attributed to the inferior flaps is overcome by the conjunctival bridge which heals in a few hours before the anterior chamber becomes distended by the resecreted aqueous, and keeping the corneal wouhd in nice apposition ensures its firm and speedy

union. The use of the suture is suggested. The removal of the iris, by Dr. Williams, of Boston, would give additional security, and the entire capsule of the lens, should remove all further accident and guarantee success.

However good in theory, experience does not sustain all that Dr. Pagenstecher promised for his operation. Even with all his acknowledged skillful manipulations, he ruptured sixteen per cent. of the capsules, and left fragments of it behind in the eye. Of sixty-three cases recognized by himself as successfully operated upon, in which all of his modifications were carried out, there was vitreous trouble, hyalitis in four cases, two of which retained vitreous opacities and the remaining two eyes were completely destroyed. Of the sixty-three successful operations he throws out eleven cases as having choroidal complications, and of the fifty-two remaining fifty could read, Jaeger's test types in the following order: 20 could read No. 1; 9 No. 2; 12 No. 5; 2 No. 8; 13 No. 16; 4 No. 20. No secondary operations were required in any case.

In the recent experience of Dr. Knapp, of Heidelberg, this freedom from accident has not been established. There was a rupture of the capsule in four cases out of thirteen, but in Pagenstecher's successful cases of complete extraction no iritis occurred in any in which the whole capsule had been taken out. In nine of the thirteen cases, secondary hæmorrhages occurred from the second to the fourth day. This was always traced to the ciliary body, and was readily absorbed, whether effused in the anterior or in the vitreous chamber. In four of the thirteen cases, vitreous opacites occurred, although there had been no loss of vitreous nor apparent injury to the hyaloid. Some of these opacitics became permanent. Eighteen days was the average duration of treatment,

and the acuteness of vision was not more marked than after other surgical procedures. Dr. Pagenstecher's flap with capsule extraction, in selected cases, gave four per cent. of total loss in his own hands.

Dr. Graefe reports 1600 unselected cases of simple flap extractions, with seven per cent. of failures. Of the ninety-three per cent. of successful cases, eighty per cent. gave perfect results; after one operation, thirteen per cent. had indifferent sight and could not read. Since the introduction of the compressing bandage, as a support to the eye after flap extraction, he has had better results. Of nine hundred cases so treated there, were but five per cent. of failures, eleven per cent. of indifferent sight and eighty-four per cent. of perfect success with good vision. Among two hundred and fifty of these, which were private patients, ninety-one per cent. gave perfect success, six per cent. imperfect results and three per cent. of failures. An average success, after simple extraction, in the hands of skillful surgeons, may be stated as follows: Seventy per cent. of good sight by first operation; twenty per cent. of indifferent sight, which may be very much improved by the use of the needle, a secondary operation to clear away false membranes in the field of the pupil, ten per cent. of failures to restore any useful vision, of which six per cent. would result in the total destruction of the eye by suppuration.

In simple flap extraction, with the wound in the clear portion of the cornea and extending over one-third of its circumference, and where a spoon was used to aid in the delivery of the lens, Dr. Macnamara, of the Calcutta Hospital, gives the following as his experience. This linear extraction, as he terms it, was performed upon nine hundred and fifty cases of hard, medium and soft lenses, with the following results: Cured, seventy-nine per cent.; improved, seven per cent.; no improvement,

fourteen per cent. His successes in hard cataracts were seventy-six per cent., in those of medium consistency stratified, eighty-three per cent., and in soft cataracts, sixty-six per cent.

Dr. Wolfe, of Edinboro', in one hundred and seven cases, used the one-third flap, confined to the opaque portion of the cornea, combined with iridectomy, and with the following results: Of the one hundred and seven cases three were complicated with glaucoma and total loss of vision. This reduces the number of cases to one hundred and four, with ninety-four per cent. of perfect vision and three per cent. of failures. Jacobson's experience coincides with Wolfe's, as to the decided advantages gained by combining iridectomy with the scleral flap extraction. His actual losses do not exceed two per cent., whilst simple flap extraction gave ten per cent., immediate and complete failures in the most skillful hands.

In Wecker's large experience of Jacobson's operation, one hundred and forty cases, there was but three per cent. of immediate loss; eighty-nine per cent. of immediate success, and of the remainder, eight per cent., requiring a secondary operation, four had useful vision restored. In two hundred and eight cases in which the incision, according to Jacobson's method, was restricted to the scleral circle of the cornea, there was but one case of destructive corneal suppuration; and a second, in which the inflammatory process was circumscribed. In M. Knapp's experience in flap operations, with clear corneal section ten per cent. were followed by pan-ophthalmitis with purulent destruction of the eye, and only three per cent. of eyes were destroyed where the section was restricted to the opaque cornea. M. Mooren also lost by suppuration seventeen of one hundred and eighty-seven cases of clear corneal section and only three out of one hundred and two of opaque corneal flap. In simple clear corneal flap

extraction, seventy-five per cent., or three in four, obtain immediate sight; in opaque corneal flap, combined with iridectomy, nine out of ten recover immediately their vision.

The modified linear extraction with iridectomy and spoon extraction of the cataract has given excellent results in the hands of many surgeons. M. Bowman reports eight per cent. of failures, in unselected cases, from this scoop operation. Of the successful cases, sixty-eight per cent. could read from Nos. 1 to 6 Jaeger's test types, fourteen per cent. could read from Nos. 6 to 14, and nine per cent. could see large objects and move about in accustomed places. In Prof. von Graefe's experience, six per cent. were completely destroyed and three per cent. nearly lost. If we exclude those cases which presented anomalies during the course of the operation, such as loss of vitreous breaking in fragments of lens, etc., the failures in the selected cases would be four per cent. Secondary operations were required in a large per cent. of cases to restore good vision. Bowman also used the needle upon many of his successful cases.

Prof. von Graefe's last improved method of linear extraction, without the introduction of instruments into the eye, except in a very few exceptional cases, gave ninety per cent. of complete successes, and in the remaining ten per cent. secondary operations promised some great improvements, so that the complete successes might be safely put down at ninety-four per cent. M. Meyer reports sixty-nine cases with sixty-two perfectly cured and relieved. No losses. Of two hundred and thirty cases performed within the last four months by Prof. von Graefe, by his new method, he used instruments in the eye, to avoid the delivery of the lens, but twice. In one case the corneal wound was too small, and in the second the effects of chloroform were rapidly passing off and it

was important to hasten the removal of the lens. Of these, two hundred and thirty cases, there was loss of vitreous in only nine in three, of which number the vitreous humor oozed out before the corneal section was completed. The advantages which he claims for the new linear section, are: First, its application to all forms of cataract; and, second, the easy and complete removal of all the lens substance without injury to the vitreous. By the liberal use of chloroform, which all ophthalmic surgeons now admit to be complete anæsthesia, the number of successful cases, after extraction, have been very much enhanced and the dangers from prolapse of the vitreous materially diminished.

In summing up the present status of ophthalmic science and the respective value which surgeons give to the many operative procedures for the removal of cataracts, we might begin by safely stating that the couching operation, which reigned exclusively for so long a time, is, for good reasons, generally condemned, and is rapidly being forgotten. It is generally considered an irrational and badly advised operation and so full of dangers that the operation is discarded from the latest works on ophthalmic surgery. By it, accidents are liable to occur weeks, months or years after the lens has been safely depressed and destroy sight by severe or protracted inflammation. The surgeon can never assure the patient of safety.

Decission, or the breaking up of the lens, was ever an imperfect operation and accompanied too frequently by dangerous accidents. It is also rapidly losing the confidence of ophthalmic surgeons. Iritic adhesions are most apt to occur during the treatment and secondary operations are continually required. A needle puncture might still be used in exceptional cases to hasten or complete the maturation of a cataract, but its application is usually restricted to the soft or fluid cataracts of children.

The suction operation for fluid cataracts is an innovation, but no improvement in eye surgery, and will soon be dropped, as it has often been before. The suction curette is a very dangerous instrument in the hands of most surgeons and inflammatory troubles very commonly follow its application.

The extraction operation, in some one of its many modifications, is universally adopted for lenses of any consistency, and are followed by the most satisfactory results. The simple flap is not now the common operative procedure. Surgeons are afraid of the large incision as conducive to corneal inflammation and prolapsus of the iris, which are the too common accidents after this simple method. By common consent the incision has been shortened, and to facilitate the complete delivery of the lens, a segment of the iris is generally removed. When we add to these two modifications, the free use of chloroform, we have engrossed the causes of the great improvement in cataract operations. Judging from statistics, it appears to matter little how the eye is opened, whether by the angular knife, the new knife of Graefe, or the old knives of Beer or Zeheider, provided the section be restricted to the scleral portion of the cornea which is a less sensitive portion of the membrane and permits of the largest possible opening. This scleral section exposes the iris at its very ligamentous attachment, facilitating the complete removal of a segment; and, also, being nearly upon a continuous plane with the bed of the lens, expedites its easy and complete escape.

The scoop operation was an improvement over the simple flap extraction on account of the smaller opening in the scleral cornea, and the important addition of an iridectomy. In one respect, however, it was not much worse than the old flap, inasmuch as it was necessary to introduce a spoon behind the lens to aid its delivery.

We may lay it down as a rule that instruments can not be freely introduced into the eye with impunity, and particularly when thrust into the hyaloid and vitreous substances in the immediate proximity of the ciliary processes. We think that, notwithstanding, the adoption of the operation and the modification of the shape of the spoon by the best ophthalmic surgeons, it will run a very short career and be soon among the discarded operations in eye surgery.

Of extraction of the lens in the capsule we have not sufficient data to draw satisfactory conclusions. Most surgeons admit the advantages of removing the capsule, and some method may be suggested by which it may be be more safely effected than by the present large flap. So far the profession is not disposed to accept Dr. Pagenstecher's method, to the exclusion of other operations, but on the contrary, show a decided preference for the linear section, as recently modified by Prof. von Graefe, or modified by Jacobson. So far these have given us the best results with the least number of accidents. They are also of general application, which is not the case with Pagenstecher's.

We need sadly some standard by which the degree of successes after cataract extractions can be determined. In the minds of some surgeons perfect successes mean good eyes, with perfect restoration of vision, where the patient, with proper glasses can read readily. With other surgeons any escape from complete failure, means perfect success. The necessity for this standard is made evident by the examination of statistics. Over one hundred years since, when cataract extractions were in their infancy, Davie, the first suggestor of this plan, had in his first two hundred and six cases, one hundred and eighty-two successes or ninety per cent., whilst, with all the improvements in modern times and in the hands of

the most eminent ophthalmic surgeons scarcely better results are now obtained. Prof. von Graefe has suggested the employment of Jaeger's test tyye, now in use by all ophthalmic surgeons, as a test of the successful operations of cataracts. When the person operated upon can, after extraction, read any given numbers from this table, we have an accurate standard of the results ot the operation.

ART. II.—CASE OF GLANDERS IN THE HUMAN SUBJECT. Read before the Montgomery Medical and Surgical Society. By W. O. BALDWIN, M.D., Montgomery, Alabama.

On the evening of the 11th of May last, I received a message from Drs. Tompkins, Townsend and Roberts, requesting me to visit, in consultation with them, Mr. Eli Townsend, a highly respectable citizen, living at China Grove, Pike county—distant about 38 miles, whom they supposed to have glanders. I went, and on reaching the place late in the afternoon of the 12th, I met the physicians named above, from whom, together with the family, I received the following history of the case, of which I made a record before leaving the house and in the presence of the physicians.

Mr. Townsend is a planter, in easy circumstances, now about 71 years of age; of large and once powerful frame; of active and industrious habits; has always enjoyed excellent health, and up to the commencement of this attack was in remarkable preservation for one of his years. He has had on his premises a very fine saddle horse, affected with glanders since Christmas last. This horse he he has kept in a close stable on his premises, but apart from the balance of his stock, and has persisted in tending him himself, in spite of the remonstrances of his

family. About the 27th of April he received a small abrasion on the dorsum of the left hand. He continued, however, to nurse his horse and among other duties which he performed for him was that of daily syringing his nostrils with vinegar and water. The injected fluid on its return was of course mingled with the secretions from the nose of the animal, which were said to be very abundant, and it is quite likely that more or less of these offensive matters came in contact with the abraded surface on the hand during some of these operations with the syringe. He seemed to have some apprehension in exposing his hands in this way after the skin had become broken, and though he continued to use the syringe daily, he never failed to go immediately to the house, where, after giving his hands a thorough washing with soap and water, he would apply a small bit of paper saturated with spirits of turpentine over the abraded surface, as a preventive of bad consequences.

On the night of the 4th ult., about seven days after the abrasure on the hand, he felt a very slight uneasiness about the spot. On the next day (5th) he visited a relation in the neighborhood, where he spent the day, and whilst there observed that the uneasiness in wound on hand had increased and noticed red streaks running up the arm with some pain in axilla of corresponding side. Complained also of great oppression and distension about stomach, and when the dinner hour arrived could not eat. Had no absolute pain in stomach but from the general distress in that region, said he thought he must have colic. Returned home in afternoon and had rigors and flushes of heat succeeded by fever. At night took a large dose of calomel.

On the 6th, calomel operated several times but distress about the stomach still continued, accompanied with nausea. Hand and whole arm considerably swollen; some

spots on skin hard to the touch and as "red as red flannel" on both arm and fore-arm. Had alternate rigors and fever with great restlessness. Took several small doses of calomel.

On the 7th all the symptoms increased in violence. Took a dose of Cooke's pills. On the 8th, whilst applying a poultice to the affected arm the nurse noticed that one of the hardest tumors on the fore-arm was discharging a thin serous fluid, and that underneath the cuticle where it had been broken the tissues presented a very dark blackened appearance.

Up to this time he had not been visited by a physician. On the 9th he was seen by Dr. Tompkins, a highly intelligent physician of the neighborhood, who immediately diagnosed his condition as that rare disease in the human subject, known as glanders, which is sometimes communicated to man by the horse, ass or mule. Pulse full and regular, and about 90 per minute; skin hot and dry; tongue heavily loaded and moist; general feeling of uneasiness, distress and restlessness, with pains and soreness in extremities; thirst and nausea, but no vomiting or retching; rigors occasionally and a desire to get out of bed and sit by the fire, which he sometimes did. Arm and fore-arm much swollen, with a general erysipelatous look; pustules, tubercles and bullæ with hardened bases interspersed on different portions of limb of varying sizes and shapes and in various stages of development, one of which had broken and was discharging a thin sanious fluid and revealing under the cuticle a blackish, sphacelated mass. Original wound where the skin had been abraded on back of hand, and which had been the point of inoculation, and now about the size of a twenty-five cent piece, somewhat sunken, of a dark leaden color and emitting a thin sanious fluid. Prescribed chlorate potassa internally and lead lotion to arm.

Drs. Roberts and Townsend saw the case in consultation on the 10th. Their description of his condition on that day, did not differ from the one given by Dr. Tompkins, of his symptoms on the 9th, except in the general progress towards virulence and malignancy.

On the 11th and 12th there seemed great tendency towards congestion in the mornings, marked by coldness of extremities, a leaden pallor of surface and feebleness of pulse. This condition was followed in about four hours with febrile reaction but without increase of frequency of pulse, which has been tolerably uniform at 98 per minute; has been freely purged. Commenced taking calomel and opium on the 10th, which was continued at intervals until 12 o'clock, M., on the 12th. Nitrate of silver was applied to wound, over and around tumours and gangrenous spots, and heavy caustic lines drawn around arm in front of axilla.

When seen by me at 6 o'clock, P. M., on the 12th ult., pulse 72, large, bounding and intermittent; skin moderately hot and occasional free perspirations; tongue dry and considerably coated; great hebetude of intellect, (this I afterwards thought was to some extent due to a pretty full dose of morphine taken in the early part of day, as when I left him next morning his mind was clear.) Has hiccoughs, some nausea, thirst, loathing of food and extreme jactitation. Left arm somewhat swollen and red. The original wound at point of inoculation about an inch in diameter, circular, in a sloughy condition and discharging a thin dirty looking serum. On other portions of the limb there were spots of different sizes and stages of development, from some of which the cuticle had been denuded, leaving a dark, almost black appearance, from which a dark reddish fluid exuded. One of these gangrenous tubercles was situated midway and on back of left fore-arm, about three inches in length and one and a

half inches in width from which the cuticle had slipped off as from a burn, leaving a dark gangrenous mass underneath, which was discharging a thin, dark red sanies. On the right arm over the olecranon process there was observed on yesterday a small hard red spot, which is now about three or four inches in diameter and circular, the cuticle over which presents the appearance of a blistered surface, and the skin underneath (which can be seen where the cuticle has been torn in a small place) of a dark livid color. These tumors or tubercles when they are first observed are only red spots upon the skin which is somewhat elevated with a hardened base. Within 36 or 48 hours they assume the appearance of regular bullæ, the cuticle looking as if it had been scalded, beneath which a thin fluid collects into a vesicle embracing the extent of the hardened base, easily broken or destroyed and revealing the sphacelated tissues underneath, varying in appearance from a livid color to that characterizing complete gangrene, according to their duration—the latter generally occurring within 48 hours after first appearance. One of these hardened tumors, which was pointed out to me, located near the elbow of the left arm seemed to have resulted in the formation of a small abscess, which had discharged 36 hours after the discoloration and elevation in the skin had been first observed. The discharge from this point was described as "considerable," and consisting of a bloody fluid mixed with quantities of matter having somewhat the characteristics of genuine pus. The tissues around this particular spot were the only ones which did not present either a sphacelus, or a decided tendency towards gangrene, in all places where the cuticle had been broken.

On different portions of the arm and fore-arm there are scattered three or four pustules, resembling fully matured small pox vesicles, but larger and more pointed.

One of these pustules was also found on the breast and another on one of the legs of the patient. The prescription, which was the result of one consultation, was the avoidance of all exhaustive remedies and the free use of sustaining measures, such as animal broths, milk, rich wines, brandy, etc., together with the internal use of chlorate of potassa with hydrochloric acid and some preparation of iron. Prognosis unfavorable.

I left a request that the physicians in attendance would furnish me notes on the subsequent progress of the case, which was very promptly complied with by Dr. Roberts. These being full embrace a considerable space and I do not deem it important to read them here, further than to give a general synopsis of them.

The march of the disease was characterized by pretty much the same symptoms enumerated in the above report, giving at no time any indication of amelioration, but on the contrary, marked by a progressive increase in violence. Patient became quite delirious on the night of the 18th, which continued in a greater or less degree, with low muttering and coma towards the close. Involuntary discharges of urine came on. Hiccough, with dryness and redness of the tongue and mouth, and excessive thirst, were present throughout. Old abscesses and gangrenous spots enlarged and sloughed. Four abscesses formed and pustules scattered over the limbs, body and face, varying in size from that of a pea to a hazlenut. Eyes became swollen with a livid discoloration surrounding them with an unusual trembling of lower jaw. Jactitation which had been excessive throughout, the attack continued with subsultus tendinum until the patient expired on the morning of the 19th, about fifteen days after the beginning of the attack. No autopsy was made. The limb which was much swollen at first became greatly reduced in size.

The transmissibility of disease from the equine tribes of animals to the human subject, though once questioned, has been demonstrated beyond the possibility of a doubt. I have not been able to find any records touching the subject of glanders in man, going further back than the present century, and it may, therefore, be said to be comparatively a new disease upon our calendar, and it is more in consequence of the novelty of the disease itself than from any special points of interest possessed by this particular case that I have been induced to read you the above notes. This is the first case of glanders in human the subject I ever saw, and I have never before heard of a case in this State. The first case on record, which I have seen noticed, was that reported by Muscroft, of Edinburg, in 1821, and the second reported by Dr. Rimu, of Germany, in 1832. To Dr. Elliotson, however, is due the credit of having done more, in the investigation of the subject, than perhaps any other man.

In order to indicate something of its nature, as well as to define its origin, the latter gentleman has applied to the disease in the human subject the term *equinia*, which has been adopted and qualified by other authors, so as to include another affection also communicated from the horse to the human subject. This is characterized by a pustular eruption and occasionally communicated to coachmen and stable boys who tend and dress the heels of horses affected by the disease peculiar to that animal, and known as *grease*. To the latter the term *equinia mites* has been applied, whilst to the one emanating from the glandered horse the term *equinia glandulosa* has been assigned.

According to Dr. Elliotson, equinia glandulosa may appear in the human subject in different forms: 1. In that of simple acute glanders, the disease attacking the nasal cavities and adjoining parts. 2. In that of acute *farcy*

glanders, appearing in various parts, in the form of small tumours, which suppurate and give rise to foul ulcers. 8. Where varieties may exist separately, or they may be both produced at the same time, or the one may precede the other. 4. Each of these varieties may also occur in a chronic form, they may also exist separately or be conjoined. Besides these divisions of the disease other subdivisions have been made. Thus Rayer distinguishes in the acute form an ecchymotic, a gangrenous and a pustular variety—all agreeing, however, that these different varieties constitute one and the same disease, and are produced by the same specific cause and may all occur in the same case.

In the case here detailed it will be observed that a set of symptoms which is, perhaps, the most characteristic of all those which usually attend glanders of the human subject was entirely absent. I allude, of course, to those affecting the pituitary membrane. In many particulars there was a close resemblance between the symptoms in this case and those which attend severe and aggravated cases of haimatoxic poisoning from dissecting wounds, and in the absence of the specific contagion to which it was known the patient had been exposed, it might very properly have been classed under that head.

In speaking of the diagnosis, Dr. Gross says: "From the effects of a dissection wound it may be readily distinguished by the peculiar discharges from the nose and by the character of the cutaneous eruption. The history of the case too will furnish important diagnostic data, and should, therefore, always receive due consideration. The fact that the patient has nursed or examined a glandered horse or person will, generally of itself, afford strong presumptive proof of the true character of the attack." The nasal discharge, as is said to have been the case in more than two-thirds of all the cases on record,

was, in this instance entirely wanting, whilst the character of the cutaneous eruptions did not differ materially from such as are often opened in dissecting wounds, so that the only means of diagnosis left us, in some cases, and particularly as between some cases of dissection wounds and farcy glanders, is in relation with our knowledge of the cause and circumstances of the attack. The original wound at the point of inoculation, with its red streaks running to the axilla, the general erysipelatoues appearance of the limb, the vesicles or bullæ appearing over the red hardened tumours on different portions of the limb and body, with thin sub-cuticular gangrenous sloughs, together with the pustules and abscesses, first appearing on the diseased limb and finally extending to every portion of the body, creates an assemblage of symptoms so closely resembling each other in the two diseases, that I must confess I should hesitate to decide from this data alone upon the diagnosis. The constitutional symptoms also are scarcely less similar than those of the surface, and the general progress of the two diseases is marked by pretty much the same phenomena—except that in one the disease is generally fatal, whilst in the other the reverse is the rule. So that at last our only positive means of diagnosis, added to the symptoms common to both, is our knowledge as to whether or not the patient has been exposed to the contagion in the one instance, or the producing cause in the other.

I have not intended to read you an essay on glanders, but simply to give you the facts, circumstances and symptoms attending what seemed to me to be a very rare and interesting case of disease. I have done this with the more pleasure because I know that some members of the profession, and perhaps some members of this society, do not believe in the existence of such a disease as gland-

ers in the human subject. I feel entirely satisfied that this was the specific disease known as glanders, reproduced in the human subject, through inoculation from the horse. One of the features of the disease which is the most characteristic where it does occur, was not present, it is true (I allude, of course, to the nasal symptoms), but yet it is shown that this has been the case with a large majority of the cases which have been recorded, and that its existence is by no means necessary in order to constitute a case of glanders. Some authors have contended that glanders and farcy are two separate and distinct diseases, whilst the weight of evidence is strongly in favor of their identity. This latter view gains confirmation from this case, from the fact that it was communicated from an animal in which the prominent features of the disease were those claimed for glanders, whilst it reproduced in the human subject inoculated from it only those phenomena common to farcy.

Note.—This paper, contributed by Dr. W. O. Baldwin, the present President of the American Medical Association will, it is hoped, suggest inquiry and stimulate investigation, in regard to this interesting subject. All information communicated will be published with pleasure.—Ed.

Art. III.—Successfully Removing a Nail from the left Bronchus with Forceps by Tracheotomny. By Paul F. Eve, M.D., Professor of Surgery in the Medical Department of Cumberland University.

In the September No., 1868, of the Western (late Cincinnati) Journal of Medicine, is an excellent article from one of the best contributors to the American Journal of Medical Sciences, Dr. J. C. Reeve, of Dayton, Ohio, "on foreign body in the air-passages; operation, recovery." The case was that of a little girl, nine years old, who had a round, smooth button, size of a buckshot, and

having a brass eye, to pass into the larynx, while playing with it in her mouth, and which was now ascertained to be lodged in the left bronchus. After various efforts were made to dislodge it, laryngo-tracheotomy was performed on the fourth day, but it was not until four more days had elapsed that the foreign substance was ejected by cough, "the button escaping and rolling out on the floor;" we presume through the mouth, though it is not so stated, the wound in the wind-pipe having been frequently cleansed and kept open. Her recovery was rapid.

The following comments are made by Dr. Reeve: "The nature of the foreign body, its size and shape, seemed to preclude any hope of seizing it with forceps. While during the first three days its location in the left bronchus, more horizontal than the right, (the reverse is true, P. F. E.), would add to the difficulties of such an attempt. Efforts were, therefore, directed solely to dislodge it by inversion of the body, succussion, etc.; no attempt being made with forceps for its removal and for the same reason laryngo-tracheotomy, as the simpler operation was performed. I was happy to find myself sustained in this decision by such authority as J. Mason Warren, who, in his 'surgical observations' with cases, (Boston, 1867), gives the following, among other conclusions, in summing up this subject, although, possibly, my patient was not old enough to make it applicable: 'If the substance is fixed in the bronchus and the patient *young, the prospect of seizing it by instruments introduced through the wound, and carried down in the direction of the lungs, is extremely small. In fact I do not know of a single successful case upon record, with the exception of one in which Mr. Liston opened the trachea of an adult* and introduced the forceps with some difficulty, seizing a bone, which had become engaged in the right bronchus.'"

The following case, published in the Nashville Medical

and Surgical Journal, with the accompanying remarks, in 1853, and republished in "Eve's collection of remarkable cases in surgery," 1857, presents the operation in a somewhat different aspect from that created by the above comments of my friend, Dr. Reeve, of Ohio, and the opinion entertained of it by Dr. Warren, of Massachusetts. It will be there seen, that up to 1852, not once, but three times, had the operation of opening the windpipe and removing a foreign body with forceps from the bronchus, been successfully performed. And since then, it may have been done again, perhaps several times, though I myself be unable to change this integer. But, if not, then my history of this subject, written fifteen years ago, remains complete.

The successful removal of a nail from the bronchus by tracheotomy, I have always considered my best operation, for I deem it by no means an easy one; and yet I know not a medical journal which has ever noticed it, or an author who has referred to it. Even in Dr. Gross voluminous work on surgery, while he mentioned one of my cases, and creates the impression, unintentionally I trust, that I had pushed a foreign body from the œsophagus into the larynx, in my efforts to extract it, when it was expressly implied that this was done by those who sent the patient to me, yet neither in this work, nor in his special one on foreign bodies in the air-passages, has he ever made the slightest allusion to it. For my case, see Nashville Medical Journal, vol. 5, p. 130.)

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

ART. I.—CLARK'S IMPROVED HODGEN SPLINT FOR TREATING SIMPLE AND COMPOUND FRACTURES OF THE FEMUR. By E. A. CLARK, M. D., Resident Physician St. Louis City Hospital.

In presenting the following apparatus to the profession, for the treatment of fractures of the femur, it is claimed that it possesses advantages not recognized in other appliances now in ordinary use for that purpose. Its practical utility is the more apparent because of its ready adaptation to all varieties of fracture of that bone, whether simple or compound. It is, however, in treating the latter form of fracture that the advantages of the apparatus are especially appreciable. The convenience and comfort it affords to the patient cannot be secured by any other mode of dressing now in use. While we do not deny that good results may be secured by all the various appliances generally used in treating fractures of the femur—even the most ancient methods, not excluding the expectant plan in some instances—yet we cannot but ignore the long splint of Physic and Desault, with its excoriating perineal band, as being not only cruel to the patient, but uncertain in securing the proper length of the limb, where there is any considerable degree of shortening.

These objections, however, do not apply to all the forms of fixed dressings, and by fixed dressings I mean such as shackle the patient upon his bed without admitting of change in the position of his body. Some of these—such as combine the method of extension by Swinburne—may rarely fail in securing the proper length of the limb, however much it may have been shortened; but with the exception of the starch bandage—which is too unsafe to be used in any case of oblique fracture—all

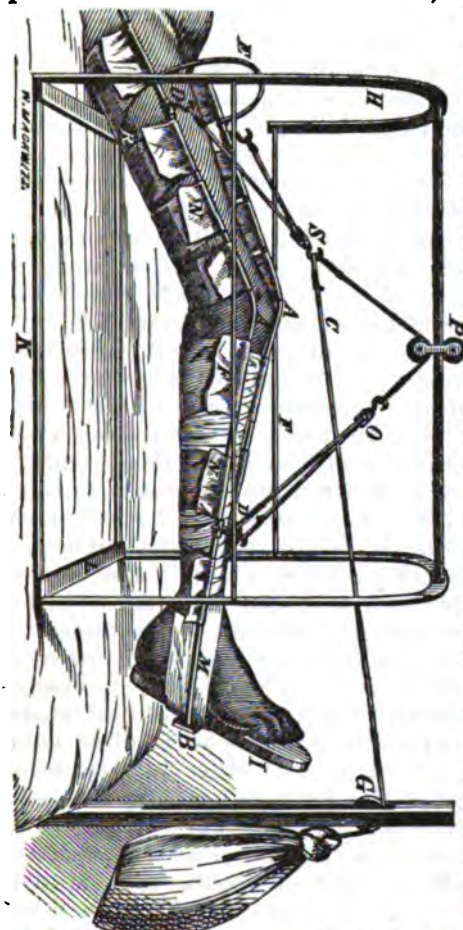
these appliances are objectionable in that they do not allow the patient sufficient liberty of motion, but keep him confined too constantly in one position, which in many cases materially affects his health, especially where other injuries or complications accompany the fracture; while in no instance can the patient be made so comfortable during the period of his treatment, confined, as he must be, by the ordinary dressings, as when he is permitted to change the position of his body and limb at will, as is the case when dressed upon the apparatus herewith represented.

This apparatus, as illustrated by the accompanying wood-cut, needs but little description to indicate the manner of its application. The arch and pullies upon which the limb is suspended, are exactly the same as those of my splint for treating fractures of the leg, as published in the Humboldt Medical Archives for January, 1868.* The arch should be turned of iron bars, one-eighth of an inch in thickness and half an inch in width. The top of the arch (H) should stand eighteen inches from the surface of the bed, while the width of the frame at the bottom (L) should be fifteen inches, and its length (K) twenty-four inches. The two arches are braced upon each other by the two slender bars (FF) at either side, and the rail at the top upon which the pulley (P) glides. This rail, to prevent bending, should be made of steel, three-eights of an inch in width and one-fourth of an inch in thickness, with its broad diameter placed in the vertical position, and fixed with a thumb screw at one end, so that the rail may be withdrawn to apply the pulley. It will be observed that the arch at the proximal end is cut away at the inner side below where it joins the lateral bar (F), the object of which is to allow the patient to use the other limb more freely.

The splint of Dr. Hodgen, upon which the limb is mounted, consists of iron rods (AA) one-fourth of an inch in thickness, placed parallel on both sides of the limb, extending its whole length and traversely across the bottom of the foot, much after the manner of Smith's anterior splint. The limb is then adjusted in the splint by placing it in position, and pinning strips of bandage (NN) four or five inches in width, over the bars on either side, constituting the floor of the splint, upon which the

*See Richmond and Louisville Medical Journal for June 1868, p. 436.

limb is allowed to rest in the suspended position, adding however, as will be seen in the diagram (R) a sheet of paste-board five inches in width, extending from the nates to the knee upon the posterior surface of the thigh, thus giving a more equable support to the limb at the point of fracture. These bars upon which the limb is supported, are prevented approaching too near to each other or to the limb, by an iron bow (E) holding them in position at their upper extremities.



The attachment for extension is by means of the adhesive strips (M), extending to near the knee and passing around the footpiece (I), to which is attached a small bracket (B) which hooks over the lower end of the main splint. Then the limb is suspended by the four hooks (DD), which are attached to thimbles that slide back and forth upon the bars, and are fixed at the desired point by means of thumb screws in their outer sides. The limb now being suspended, the extension is made by means of the cord (C), attached to the pulley at (S), passing forward between cords playing over the pulley at (O), to drop over the pully (G), fixed in the slender post at the foot of the bed, and then attached to a sandbag of sufficient weighf to make the necessary amount of extension. The weight ordinarily

required for an adult will be from ten to fifteen pounds. Now with the limb completely adjusted in the apparatus, the axis of the femur may be changed to any line, by sliding the thimbles nearest the foot forwards or back, which will elevate or depress the leg, and in doing so will produce just the opposite effect in the position of the thigh. Or again, the same can be accomplished by sliding the thimbles at the thigh back and forth. Or the axis of the femur may be still more conveniently adjusted, by gliding the pully (P) back or forth upon the suspension rail, which, as will be seen by a glance at the diagram, if the pully be drawn towards the body, will have the effect of elevating the thigh and depressing the foot, and *vice versa*. Then by means of the lateral movement in the pulleys (SO), the patient is enabled to rotate the limb sufficiently to allow him to lie upon his side if he desires, or if it becomes necessary. The only counter-extension required with this dressing is the weight of the body, which is quite sufficient in all cases; for even though the patient should gradually slip down in bed, the extension is constantly the same until it reaches the post at the foot of the bed, when, without any assistance, he can draw himself up in bed again, the whole apparatus connected with the limb coming back with the pulley (P) upon the suspension rail, when the body is drawn upwards. Thus it it will be seen that the patient is enabled to execute many movements of which the sound limb is capable, without in any way modifying the force of extension, or changing the axis of the femur. Even though the patient desires to sit up, or lie upon his side, as he is often compelled to do because of bedsores, or other injuries upon his back, the position of the fracture is not in the least affected or union retarded. Neither does it matter at what point the fracture occurs, whether in the shaft of the bone or the neck, without or within the capsular ligament, the result will be all the same. Though it has been urged and may be thought by some, as an objection to this apparatus, that the great degree of motion allowed to the limb will admit of too much mobility in the fracture, such objections are altogether theoretical, for it must be apparent that with any ordinary movement of the limb, the motion will take place at the point where there is the least resistance, which would, of course, be at the joint, and not at the point of fracture. It will readily be seen that as the weight of the limb is support-

ed as much upon the upper, as upon the lower fragment, and the entire limb carried alike in every movement, the the whole length of the thigh being supported upon the sheet of paste-board on the floor of the splint, it is impossible for any motion to take place at the point of fracture, without direct force being exerted upon the fractured extremities. This apparatus is also peculiarly adapted to the treatment of compound fractures of the femur, as that portion of the limb, not being encumbered by bandages or splints, is always exposed to view, and made convenient for the application of dressings; while the strips of bandage beneath, upon which the limb is supported, can always be readily removed when they become soiled, and replaced by new ones without disturbing the position of the limb. That portion of this apparatus consisting of the iron bars on the sides of the limb, the strips of bandage constituting the floor of the splint, with the adhesive strips attached directly to its lower end, without the intervention of a footpiece, and the lateral pullies, was originally devised by Prof. J. T. Hodgen, some seven years since, but the suspension and extension was made from the ceiling, after the manner of Smith's anterior splint; and though almost universally successful in securing good results with this method, we think our plan of suspension and extension preferable, both for its convenience, and the dangers to success that it obviates. When the extension is made from the ceiling, the cord must be placed at a certain angle of obliquity, to insure the necessary amount of extension to maintain the proper length of the limb. Then, if, as will invariably be the case, the patient slips down in bed, the force of the extension will be diminished just in proportion to the diminution in the angle at which the cord is attached. But with the extension by the sandbag, this danger is entirely obviated by the uniform traction exerted upon the limb, in whatever position the body of the patient may be placed. We have recently treated six cases of fracture of the femur, by this method, with no shortening or deformity in a single case. Of these, one patient was a delicate female, sixty years of age, with an extra-capsular fracture of the neck of femur, with a contusion upon her back, that required her to lie upon her side most of the time during the ten weeks her limb was kept suspended. In another case—that of a man fifty-six years of age, with a fracture at

the middle third of the femur, which from unnecessary interference was prevented from uniting—at the end of fourteen weeks (now eight weeks since) I performed the usual operation for ununited fractures, by lacerating the fractured surface with a gorget, and readjusted the limb upon the apparatus as before, and the fracture is now becoming quite firm, and will soon be a successful cure, without any deformity or shortening of the limb. I feel confident that a single impartial trial of the apparatus, will satisfy any one as to its practical utility, and that no other apparatus has yet been devised, so fully to obviate the many inconveniences attending the treatment of the class of injuries for which this is especially adapted.—*Humboldt Medical Archives.*

[The two articles, by the same author, in the October number, are from the same journal.—Ed.]

Art. II.—History of Two Cases of Hermaphroditism. By Samuel J. Woods, M.D., Medical Officer of the Roscrea Union Workhouse and Roscrea Dispensary*.

There are at present in our workhouse two very interesting cases of abnormal development of the sexual organs, considered as male and female, in children of the same family.

The first subject, who has hitherto been regarded as a girl, is aged thirteen years, and presents nothing peculiar in her general conformation. She is rather good-looking, intelligent, modest, and without the slightest appearance of masculinity.

She was brought under my notice by her mother, for a tumour in the left labium pudendi, and which she stated had made its appearance about one month previously. On examining the parts, and separating the labia, I found that there was no vagina, but there is an apparently well-developed clitoris, having a slight indentation on its glans, with a prepuce, but no nymphæ. Below it there is a funnel-shaped depression, lined with mucous membrane, capable of containing a hazel nut, and leading to a small orifice, through which she micturates. From this, backward to the perineum, the labia are united, forming a deep groove. The left labium is larger than the right,

* Read before the Dublin Obstetrical Society.

and each contains what appears to be a testis, or ovary, with a trace of cords. The right testis is very high towards the inguinal region; it requires a good deal of manipulation before it can be felt, and is much smaller than the left. It is likely that the latter may have occupied a similar position previous to the time when the tumour presented itself visibly, and attracted the mother's attention, it only then having descended to its present place.

On mentioning to the mother this condition of her child, she was much alarmed and said there was something wrong also with her little boy, whom she had with her in the infirmary, and whom I had daily opportunities of observing—the woman being a wardsmaid in this department of the institution nearly since her admission, nine months previously.

This child is four years old. He is large for his age; his abdomen protuberant; his legs, arms and thighs soft and round, and containing a large amount of fat; yet he is not more feminine in his appearance than boys of his years.

On a first glance, when exposed for examination, the external parts of generation have all the appearance of a female. I may say nearly the same description answers for him as for his supposed sister. In place of a scrotum there exist the outlines of a labia pudendi united at the mesial line, without the deep groove as in his sister, but forming a commissure extending to the perineum. Each side contains a very small rudimentary testis and cord; and he also urinates through an orifice at the base of his elementary penis.

On a uterine sound, and also a catheter being introduced, they passed into the bladder; but the finger in the rectum failed to detect any intervening canal, uterus, or prostate gland. On those occasions the "clitoroid penis" in the elder child seemed to posses erectile properties.

Besides these two children the mother has had ten others, of whom six are living—five males and one female, all well formed. I questioned her closely as to her having had any previous knowledge of the elder child's state, but she declared firmly she had not the least idea of it up to the appearance of the tumour. She was aware of the deficiency of the younger one, as the medical gentleman who attended her in confinement had informed her of it.—*Dublin Quarterly Jour. of Med. Science, for Aug.* 1868.

[Note.—The elder child may be ranked in the class de-

nominated "malformation of the male;" and the younger one in the class "where there exists a real mixture of the organs of both sexes, although not sufficiently complete to constitute the double organ."—Ed.]

Art. III.—Probable Case of Hermaphroditismus Lateralis.

The question whether hermaphroditismus lateralis actually exists, has not yet been decided, as there are no cases on record in which the presence of one ovary and one testicle in the same being could be proved by the microscope. The following case, however, may prove to be one of real hermaphroditismus lateralis.

Toward the end of last year, an *individual* named Catharine Humann, (she having been pronounced a girl by the attending midwife,) was received at the gynecological clinic of Wurtzburg, who had already attracted the attention of the medical profession for some time. Her parents are perfectly healthy, and no other malformation happened in the family. She passed the time of her infancy and childhood quietly, without having much desire to join either boys or girls in the plays customary at that age. As soon as she was able to work she was employed in the usual work, being equally skillful in handling the plough and the needle. In her twelfth year the external organs of generation began to be developed; the body, heretofore considered the clitoris, under the outer margin of which the urethra opened, became larger and thicker, the breasts also enlarged as in girls verging towards puberty. At the same time sexual emotions took place, her affections tending toward both sexes, although she seemed to prefer the female sex more. The preference for the latter increased after she began to have seminal emissions, caused, as she says, by dreaming of cohabiting with women. It may be here remarked that she also experienced the feeling of lassitude usually following those nightly emissions. She began, after her 16th year, to cohabit repeatedly with women, although she never had a full erection ot the penis. After her 20th year, the functions of the female sex also became developed, for at that time a hæmorrhagic discharge first happened from the urethra, which, in the beginning, occurred at long intervals, until it finally returned regu-

larly every three or four weeks, lasting several days each time, when it was considered by herself and others as a menstrual discharge on account of this regularity. She had also all the other symptoms of menstruation occurring before or during this period, a feeling of contraction in the abdomen, general lassitude, and greater sexual excitement. Her breasts also swelled at that time, while a fluid resembling colostrum exuded upon pressure. This symptom, however, ceased upon her 40th year.

Catharine Humann seemed, since the appearance of this hæmorrhagic discharge, to show herself more susceptible towards the caresses of men than before. Being in her native village considered a girl, wearing female clothing and having her breasts fully developed, she was, like other girls, courted by the young men, and coitus was even attempted by several, although she did not possess even the trace of a vagina. Yet she always experienced a certain voluptuous feeling, followed by the discharge of a whitish fluid, without, however, an erection of the penis taking place.

The menstrual discharge from the urethra continued regularly every month, lasting from three to six days each time, up to her entrance into the institute. It failed only during the whole time, after she had become thoroughly wet. In her 26th year, hair began to grow on her face, which she soon tore out, in order to avoid ridicule. All her other functions were perfect.

Catharine Humann is now 42 years of age. She wears female clothing, makes, however, the impression of a so-called masculine woman; her features, gait and voice are those of a man. Her head is normal, the hair is of black color and reaches to the shoulders. Several black and strong hairs are found upon her chin. Her neck and chest are of the male type, with the exception of the breasts, which are round and well formed like a woman's. The pelvis is also of a male shape, her limbs want the softness and roundness common to the female sex, every muscle can be traced distinctly as in a man. The bones are strong and large.

The external organs of generation are in appearance of the male type. A well-shaped penis of medium size and thickness is at the usual place. It is not perforated, the fossa navicularis terminating in a not very deep cul de sac. The urethra issues on the lower surface, near the end of the glans penis, producing thereby moderate

hypospadia. The glans penis and prepuce are otherwise perfectly normal; two tortuous folds run from the lateral margins of the latter towards the mons veneris. The prepuce is perforated in two places, a thread having been inserted for the purpose of performing an operation. She wanted to have all the parts removed, as in her present state she did not belong to either sex.

The scrotum contains on the right side a body resembling in every way a testicle; she feels the well known dull pain upon pressure, while the epididymis can be traced distinctly. The left side of the scrotum is shorter, and contains a body in which neither testis nor epididymis can be traced, and which is said to become thicker during an erection of the penis. A similar lobulated body lies in the left inguinal region. Their nature can of course only be ascertained after death.

Her pelvic cavity was examined very carefully through the urethra and rectum, but nothing abnormal was found which might indicate the presence of a uterine body.

Although it was already ascertained by a physician that a bloody discharge really issued from the urethra, she was placed under the strictest surveillance, in order to prevent her from practicing any deception. Menstruation had ceased a few days before her reception into the Institute. The orificium urethræ and surrounding parts were still bloody, while small clots of coagulated blood were attached to the hair. After eight days an evacuation of semen took place, as, according to her assertion, always happened at that period. This was examined under the microscope and found to be normal semen, containing moving spermatozoa, which established her ability of performing the male functions of generation. The bloody discharge from the urethra was observed at the usual time, preceded by all the symptoms as above described. The microscope proved it to be normal fresh human blood, mixed with mucus, as the menstrual blood generally is. The phenomena were twice observed during her stay in the gynecological Institute.—*Beitræge zur Geburtskunde und Gynækologie.—N. Y. Obstetric Journal.*

ART. II.—IMPROVEMENTS IN THE HANDLES OF OBSTETRIC FORCEPS. By WILLIAM READ, M.D., Boston, Mass.

I desire to call to the notice of the profession an improvement in the handles of obstetric forceps, by which, without in the least impairing their strength or efficiency, they are made much more portable. By reference to the accompanying drawing, it will be seen that the handles are disconnected from the blades by a parrot-bill joint, which admits of instantaneous adjustment, and when adjusted, gives as much power and facility of use as if each blade were in one solid piece. The improvement can be applied to any forceps at a very moderate cost, and is not limited in its application to them alone, but may be used whenever it is desirable to shorten the handles or reduce the length of any instrument for greater economy of space in packing or transportation.

Reference to the figures in the plate:

1. A parrot-bill projection at the end of the blade which hooks into

2. A socket formed in the shank of the handle. When the joint is closed, a spring on the back of the shank catches into a notch in the blade and prevents the two parts from being disconnected while introducing them and fitting them to the head of the child.

3. A clamp by which the forceps, after being locked, can be retained in their hold upon the head, and which admits of being released without delay by simply lifting the catch from the pin which confines it.

ART. IV.—LATERAL HERMAPHRODITISM.

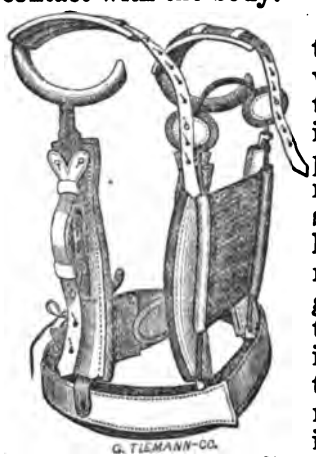
In the Liverpool Medical and Surgical Reports, October, 1867, Dr. Rawdon describes a case of true lateral hermaphroditism, in which a tolerably developed vagina and uterus were present. In the left broad ligament a Fallopian tube, a round ligament and apparently a parovarium were found, but no trace of either testicle or ovary; in the right broad ligament a Fallopian tube and a distinct testicle, with an epididymis, and a vas deferens, which was traceable on the side of the uterus as far as the cervix, the junction between the testicle and the epididymis being very feebly, if at all developed. The conformation of the pelvic cavity was between the male and female types. It was alleged by the person that a partial occurrence of the menstrual secretion took place regularly. The case is of interest in its bearings on the developments of the genital apparatus, and from the coexistence of a Fallopian tube and a vas deferens on the same side of the body, it supports the view that these ducts are developed from distinct embryonic structures,

viz: from Müllerian duct and the excretory duct of the Wolffian body.—*Med. News and Library.*

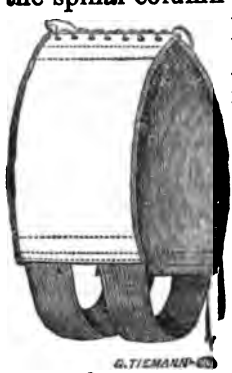
ART. V.—NEW BRACE FOR POTT'S CURVATURE OF THE SPINE.

Messrs. Tiemann & Co. have recently constructed a new brace for the spine.

It is intended to afford an entirely elastic continuous and gentle pressure to the parts to which it is applied, giving to the patient, along with adequate support, an easy and comfortable feeling. It is made of light tempered springs and softly padded, wherever it comes in contact with the body.



The belt below passes around the pelvis, and the principal weight is thrown upon the gluteal region. The front portion is broad, so as to compress the protruding abdomen. Two upright parallel bars pass on each side of the posterior elevation, having a portion of silk elastic rubber between them, which gives a constant pressure upon the protuberance. If the latter is inflamed, a portion cut out of the elastic material prevents direct pressure upon the extremity of the bone. Upon these side bars are attached 2 elliptic and padded springs, yielding to every pressure, and adapting themselves to the sides of the spinal column and keeping the body in an erect position. These are removed or applied by a very simple process: The two padded crutches are elastic and elevate the body by pressing mostly under the margin of the scapula, thus obviating any tendency to pressure upon the axillary veins. They are constructed in such a manner that the equilibrium of the body can be restored in case one shoulder is depressed.



The elastic belt shown in the cut is for the purpose of giving additional pressure if needed, but mainly to compress the sternum. It is to be worn at night.—*Med. Rec.*

ART. VI.—A GENUINE HERMAPHRODITE. By HENRY N. AVERY, M.D., of Poughkeepsie, New York.

The following is such a wonderful case, and being as near a hermaphrodite as anything can be, notwithstanding the evidence that nothing of the kind can exist, I report it for the novelty of the case, rather than the operation.

August 6th, 1868, Christie Ann C——, called upon me for advice, giving the following answers to my questions. After stating that she was a native of Nova Scotia, and had just arrived in this city to see a sister living here, and seek surgical aid in the States; unmarried; twenty-four years of age; five feet ten inches high; enjoying comparatively good health; occupied during the past two years in teaching school, and that she had a *growth* upon her privates.

From observations, I discovered that she possessed a deep, coarse voice, a masculine frame and face; in fact, resembling an ordinary coarse woman.

After a careful examination, to my surprise I found the following to exist: the mammæ were undeveloped; the clitoris, resembling a penis in flaccid state, was two inches long, and half an inch in diameter, with well developed gland and foreskin. No orifice was discovered. A vagina two inches deep, well formed, existed, but a close examination per rectum and bladder could not discover any trace of a uterus; the meatus urinarius and vestibule were perfect; the right labium majorum was quite natural and of usual size; the labia minora were traceable, but in the folds of the left labium there appeared a large pendant tumor, resembling the left *testicle* of a man, with a well developed scrotum of usual size, of some four inches in length, resembling in every respect the scrotum. Tracing what appeared to be the cord up, I found it made its exit from the external abdominal ring, and having every indication of a spermatic cord; the epididymis appeared to be natural; in fact, everything resembled a *testicle*.

She stated that she felt some sexual desire, and that every morning for the past six years, she had vomited, on rising from bed, a small quantity of blood. To my question as to how long the tumor had existed, she stated that she had noticed nothing until she was ten years of age.

Her object in coming to me was, she said, to see if I

would remove the tumor, as it annoyed her. The physician at home, the only one she had ever shown it to, stated that he could do nothing for her.

Being placed in somewhat of an embarrassing position, in discovering so much more than I expected to find, I resolved to call a consultation, to see if my diagnosis of a *testicle* would be confirmed. Accordingly Drs. J. S. P. Lord, E. H. Parker, and my brother, Dr. E. W. Avery, all of this city, were called in, when they all agreed that it resembled in every respect a *testicle*, but the case being so extraordinary that they could not form any diagnosis, but advised an operation.

With the assistance of Dr. Lord and Dr. E. W. Avery, I proceeded to perform the operation, by removing the tumor by the usual process of castration, by making an incision of some five inches in length, so as to expose the cord, which was found with three arteries that were ligated, and several smaller ones, a large nerve, vein, etc.; severing the cord, the retraction was the same that might be expected in performing the operation upon a man; the tumor was then dissected out, the wound partially closed, and the patient placed in bed.

After removal, the tumor was examined by Dr. Lord, Dr. E. W. Avery and myself, with a microscope magnifying 350 times, when cellular structure and convoluted tubes were visible, with rudimentary spermatozoa; in fact, it was declared a *testicle*.

Mounted specimens of the tubes for the microscope have been prepared, and photographs of the woman will be preserved.

This being the only case, I believe, on record, where a *testicle* has been discovered in a *woman*, it will naturally interest many. The *fact* can now be settled, that such a thing as a hermaphrodite has existed.—*Med. and Surg. Reporter.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the last Dublin Quarterly Journal of Medical Science, No. XCI; the Medical Times and Gazette, and the London Lancet, (original copies). By Prof. JAMES M. HOLLOWAY, M. D., Associate Editor.

Dr. Maunder, Surgeon to the London Hospital, urges the importance of the introduction of the whole hand into the rectum, to aid in the diagnosis of obscure enlargements and defects of the uterus and its appendages. By this method he was able to determine the absence of a uterus in a case of congenital *atresia vaginæ* and the presence of an enlarged ovary, occupying the normal position of the uterus. This accurate diagnosis, which could not have been reached otherwise, prevented a useless operation. The only objection to the introduction of the hand is the temporary paralysis of the *sphincter ani*, caused thereby.

Dr. Balfour, in a paper read before the Medico-Chirurgical Society, relates three cases of aneurism, that had been beneficially treated by the administration of large doses (30 grs.) of the iodide of potassium. He thinks that it exerts an influence, either directly or indirectly, as a nervous sedative upon the blood, causing coagulation in the sack.

Dr. Charles Witt writes to the London Lancet that he has recently resorted to deep puncture in a case of general anasarca, with surprising results. The lady, aged forty-five, was unable to assume a recumbant posture, because of the extensive effusion; but had such a dread of the knife that he was induced to puncture one limb at a time, in order to convince her of the partial benefit to be derived therefrom. The right foot was punctured, and in forty-eight hours *both* limbs were equally reduced

in size, and there was an amelioration of all distressing symptoms. He asks, "could it (the relief of the anasarca) have been effected on the principle of a syphon?"

Dr. Henry Smith, in a letter to the London Lancet, urges the importance of employing an ivory sheathing for the iron clamp that is used in the treatment of hæmorhoidal tumours by the actual cautery. The ivory, being a good non-conductor, prevents the production of pain in the parts upon which the clamp rests. When chloroform is used the iron clamp alone may be employed.

A correspondent of the Lancet recommends the following remedy for troublesome hæmorrhage following the extraction of a tooth: Soften a bit of white wax and, having moulded it into a conical shape, press it firmly into the cavity, apply over it a pad of lint, and bind the jaws together for a few hours.

Another correspondent of the Lancet asserts that the plurality of children can be discovered by an examination, *per vaginam*, by observing the following phenomenon. In single births, when the first stage of labor is advanced, the uterus descends with the head of the child into the pelvis and the rim of the os can be felt with the finger. In twin births this does not occur, the descent of the womb being prevented by the presence of the second child, with liquor amnii.

Another correspondent of the Lancet suggests a plan to prevent the spread of scarlatina. When desquamation sets in, oil the patient from head to foot and then cleanse the skin, thoroughly, with soap and water and common washing soda. A little carbolic acid might be added. By this means they lose epithelium, which would otherwise become a source of contagion, by getting dry and pervading the woolen cloths. All the excreta of the patient should be mixed with chloride of lime and water and deposited elsewhere than in the water-closet used by other children.

Dr. Samuel Wilks, in his lectures on diseases of the nervous system, published in the Medical Times and Gazette, rejects the theory that *delirium tremens* is caused by the cumulative action of alcohol. Alcohol

causes a degeneration of all the tissues of the body. The brain is equally affected with other tissues. There is, in fact, a fatty degeneration of the nervous centres and, in consequence, the mind is inactive and easily unbalanced, just as the muscles are weak and unable to endure prolonged exertion. He asserts that the sudden withdrawal of the accustomed stimulus does not cause *delirium tremens*, and insists upon its abandonment as a remedy in the treatment of the disease. He employs the wet sheet, (the regular *pack*), as a means of restraint as well as a calmative; forbids the visits of curious friends, and gives opium and antimony and beef tea.

In the Dublin Quarterly, for August, '68, Dr. Henry Thompson, Surgeon to the Tyrone County Infirmary, reports a case of *primary* excision of knee joint, for gunshot, resulting in recovery with a useful limb, one and a half inches shorter than the sound one. The patient, aged twenty-seven, was able to walk about, with the aid of a crutch, in four months, and to sustain the weight of his body upon the injured limb, bony union between the tibia and femur having occurred.

Dr. George H. Kidd, of Dublin, reports cases illustrative of the postural treatment of prolapse of the funis, as first recommended in America by Dr. Thomas, of New York, in 1858. As directed by Dr. T., he, in each case, whether the funis protruded on the sacral or pubic side, placed the woman upon her elbows and knees, with her shoulders thrown forward, and gently lifting the head of the child, the funis slipped back into the uterus.

In an extract from Dr. Pavy's treatise on the function of digestion, to be found in the Dublin Quarterly, the theory of Bernard as to the protection of the stomach against the solvent action of the gastric juice by the constant renewal of the epithelium during life, is proved to be incorrect by the following facts: 1. After the removal of a portion of the mucous membrane of that viscus, complete repair takes place by cicatrization. 2. The stomach resists the action of the gastric juice for a long time, even when its mucus layer has been destroyed by cancer or ulcers.

Dr. Pavy thinks that the alkalinity of the blood, flow-

ing through the capillaries of the walls of the stomach, serves to neutralize the solvent power of the acid gastric juice. That so long as the circulation continues active the flow of the alkaline blood is commensurate with the secretion of the acid fluid; but so soon as the blood becomes stagnant, the juice already secreted is competent to act directly upon the walls of the stomach and, consequently, we frequently find perforation in post-mortem examinations.

Dr. J. B. Nevins, Surgeon to the Liverpool Eye and Ear Infirmary, concludes an interesting inquiry into the comparative advantages of iridectomy and Hancock's operation or division of the ciliary muscles, with the following sentence: "On the whole, the result of the operation has been so decidedly favorable as to raise this mode of treatment to a high position in the estimation of my colleagues in the Eye Infirmary, as well as in my own; and these cases are published in the hope that they may promote our knowledge of a valuable and simple operation which may be substituted, in a large proportion of cases, for the more serious one of iridectomy." In another part of the Dublin Quarterly, Dr. Baden, ophthalmic surgeon at Grey's Hospital, is made to say that every medical man should be prepared to perform iridectomy; for, "in cases of acute glaucoma, where it is of the greatest service, and where immediate surgical aid is required, the difficulties of its performance are but few, for the textures of the eye-ball are but little altered; provided vision has been useful before the attack."

[NOTE.—Hancock's operation, being much more simple than iridectomy, might be tried in cases of acute glaucoma before the other operation is resorted to.] J. M. H.

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M.D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians of the Hospital.

LECTURE IX.—ON A CASE OF VARIOLOID—THE SIGNIFICANCE OF CLUBBED FINGERS.—CARDIAC DROPSY WITHOUT SWELLING OF THE FEET.—CASE OF MYELITIS AND PNEUMONIA.—CASE OF MITRAL DISEASE OF THE HEART.

GENTLEMEN: The first case to which I shall ask your attention, is that of the young woman before you.

Margaret Rogers, 19 years of age; born in Philadelphia; admitted January 31, 1868. She then complained of pain in her left side over the false ribs, which she attributed to a fall upon that side some three months before. There was soreness on pressure and pain when she took a deep breath. The pain moved down to the crest of the ilium and to the buttock; and then located itself about the hip joint.

While convalescent from this attack there was found, on the 15th of this month (four days ago,) without the patient having experienced any general symptoms of sickness, without having had any chill, without any fever, without any sickness at the stomach, without, in fact, any apparent, or, so far as she was able to observe, any conscious deviation from her ordinary condition, there came out upon the skin an eruption of roseolous spots, that is to say, exanthematous spots, irregular in shape and differing in size. They might be compared to the spots which are seen at the commencement ot measles,

and sometimes of small-pox, preceding the proper eruptions of those diseases. This eruption did not seem to be explicable upon any common supposition, chiefly because there had been no acute general symptoms, for I have mentioned that all the ordinary ones of eruptive fevers were absent. It was very evident, however, that this eruption was an acute eruption; it had appeared too suddenly, too uniformly and too regularly over the whole surface of the body to be consistent with the supposition of any chronic cutaneous affection, for such are always gradual in their appearance. On further examination, it was noticed on the next day that these spots, which, at first, were mere discolorations of the skin, had become elevated, decidedly, above the surface; some of them were perhaps a quarter of an inch and others half an inch in diameter and of various shapes, irregularly round, oval or oblong. In the centre of some of these thickened, elevated portions of the skin there appeared little vesicles, which gradually became filled with a very light cream-colored or milky fluid. The eruption appeared first on the back of the arms, on the back of the neck, and on the upper and back part of the chest; but during the whole time, and up to the present moment, none of it has appeared on the anterior aspect of the trunk. The original form of the eruption, the exanthematous form, the somewhat splotchy condition of the skin, still remains there, while, upon the other parts, it has gone through the stages that I have described; and you see upon the patient's face, on the upper lip, on the forehead, and, also, upon the back part of the arm, these papular elevations. They are now much more definite than they were yesterday. It was noticed, particularly, that the eruption was on the back of the arm and very little upon the front of the left arm, and the same condition existed, though it was not so well marked, on the right arm. You will

notice what I have called your attention to before, that these old elevations of the skin are sown all over with little vesicles, which afterwards become pustules.

This case, as I have detailed it to you, was quite a puzzling one when I first saw it yesterday. Had it appeared then as it does to-day, I should have had less hesitation in regard to its nature. I now present it to you as an affection which some persons would call varicella, and others varioloid. There is a great difference of opinion among those who have had the largest experience in diseases of the skin, both of the acute and of the chronic forms, in regard to the nature of these two affections, it being, however, I think, generally admitted, and such is my own belief, that varicella is a distinct disease from variola or small pox; that the one does not in any degree protect from the other, whereas, you know perfectly well that variola protects against variola and varicella against varicella, but the one does not protect against the other. Therefore, I maintain that the two diseases are not identical. There are others, however, of large experience who hold a contrary opinion, and that opinion is based, I believe, on just such cases as the one we have had before us, cases in which the eruption has appeared upon the skin irregularly and without the usual prodromes of variola, for, as you have heard, none of such prodromes existed in this case. I have said nothing about the throat of the patient because she did not complain of its soreness; nevertheless, on examining it yesterday, I found an abnormal redness of the mucous membrane of that part.

The eruption, then, came out as an exanthematous eruption in patches, somewhat elevated and red, and upon those patches appeared little clusters of vesicles which, as you saw just now, have gradually become more or less pustular. The cause of the eruption, the

succession of places in which it appeared, is for the most part irregular. It began upon the face and so far was regular; but instead of then breaking out upon the chest and upon the anterior part of the body, it occurred next upon the arms and not upon the more delicate skin of their anterior but upon the thicker skin of the outside of the arms, and it did not, nor has it up to the present moment, appeared on the anterior part of the chest nor on the abdomen at all. In all these points, you observe, the eruption is entirely irregular and different from that observed in the ordinary history of variola; nevertheless, taking into consideration the appearance of the eruption as we have found it to-day, I can entertain no doubt that it is a form of what is called varicella, by some or by others variolous varicella, which is essentially variolous in its nature. That is to say, the matter taken from a vesicle in the case we have had before us, being inoculated into a person not protected by vaccination or by small-pox, would, most assuredly, produce variola; of this I have not a shadow of doubt. Why then has the disease run so singular a course? Why then has there been so complete an absence of all the usual prodromes of an eruptive fever? And why has it appeared so irregularly and in such unusual places in this case? I think the whole answer is to be found in the mark which the girl bears upon her left arm and that is a distinct and characteristic vaccine cicatrix. I take it that she has been protected by vaccination before her present attack, that she has been exposed to the contagion of small-pox, and that she has contracted it in this modified and very irregular form. This conclusion I have drawn in your presence; for I had come here prepared for an entirely different diagnosis. Of course, in such a mild case as this, no medicinal treatment is necessary. The only one I should suggest, is that the patient be placed where she cannot communicate her disease to others.

You are all familiar, gentlemen, with a symptom which is regarded almost as pathognomonic, and which has been so regarded from the earliest history of medicine, a symptom of advanced phthisis, and which consists in what is known as "clubbed fingers." This is so peculiar, so characteristic a symptom, that it is minutely described by all writers upon the disease; and if you go into any hospital ward where phthisis is treated, you will be sure to find more or less perfect examples of it. Now, I want to show you that it is not proper to infer too positively the existence of phthisis in any case, from the appearance of the fingers alone.

Here is one of our patients who has a disease affecting both lungs. You will notice that the fingers are clubbed, that is to say, they are thinner before you reach the last phalanx than at the last phalanx itself, and the diameter of the finger at the root of the nail is greater than elsewhere. You will also notice the uncurvated appearance of the nail, and that the diameter of the finger, measuring through the pulp to the back of the nail, is remarkably great. These are the chief features of this form of nail. The two hands in the present case present the alteration in a very characteristic way.

The patient who has just retired, is far advanced in phthisis; she is exceedingly feeble, very much emaciated, and has, probably, not long to live. But I have here another patient who has no more tuberculous disease of the lungs than any one of you; and yet she presents this peculiar appearance of the fingers in a most exaggerated form. She has some chronic diarrhœa, which, however, has not very materially reduced her strength, and most assuredly has not tended in any appreciable degree to occasion this appearance of the fingers. Look at them attentively, they are typical clubbed fingers. You see the relative thinness like that of a neck behind the

base of the nail, the sudden swelling at the last phalanx, the incurvation of the nail, the want of the natural depression between its matrix and the nail itself. You have here all the features which belong to clubbed fingers in phthisis; and yet this woman, I repeat it, has no phthisis at all. It is only a year or a year and a half since her fingers began to be clubbed. She had rheumatism at that time and afterwards, but she got better of it, so that it is evidently not connected with any disease of long standing producing exhaustion or attended with any profuse discharge. What she has now is a simple and mild chronic diarrhœa totally unconnected with any tuberculous disease. I bring this case before you, in order to give you as striking an instance as possible to warn you against drawing hasty conclusions from a single symptom.

The next case I have to show you, gentlemen, is one of dropsy. You will remember, what I have so often stated to you, that dropsy is only a symptom and not properly a disease; a symptom now of the influence of a special cause, as of cold, acting upon the skin directly, and upon the kidneys indirectly, and that the usual causes of dropsy are disease of the heart and disease of the kidneys. In this case we have a disease of the heart.

You are all aware, I suppose, by this time, for I have stated it to you quite frequently, that dropsy, caused by disease of the heart, almost always begins at the feet; the exceptions to the rule are exceedingly rare; that, on the other hand, dropsy proceeding from disease of the kidneys, almost always begins in the face; such is the rule and the exceptions to it are very few. You would suppose, and justly, that if dropsy, caused by obstructive disease of the heart, begins in the lower extremities it will appear in the feet first, which will continue to be relatively the most swollen, and that the ankle will be relatively more swollen than the calf of the leg, and the calf

of the leg more than the thigh, and so on. Now, I want to show you in this case, among other things, that certain conditions may modify that succession of events. You have here a woman in whom all that part of the leg above the ankle is very much more swollen than the foot; so great is the difference that the foot may be said scarcely to be swollen at all. You know very well that the foot swollen by a dropsical effusion, often loses all its natural proportions and becomes what is called a "pudding foot," and may be so enormously distended that the toes are scarcely visible, so that there is presented, instead of a foot, a shapeless bulging tumor. But there is nothing of the kind here. You see that the woman's foot is very little swollen and I am very sure that, if you were not told that there was swelling in the leg, you would not suppose the foot to be any larger than natural. You observe, also, by comparing this right foot with the left, which is not swollen at all, that it is not, in fact, very much enlarged. You know very well that where œdema exists, it is almost always easy, by pressing upon it with the finger, to make a depression which remains for a short time after the pressure is withdrawn. So here you observe, I make a depression upon this leg very readily, but though I press upon the foot much more firmly than I did above, yet scarcely any mark remains. So that there is really very little swelling in the feet, and yet you see how enormously the legs are swollen, and not only are they positively enlarged, but they are relatively much larger than we usually find them.

Before going any further in the case let me say, that it illustrates another point in the mechanical history of dropsy, that when the swelling reaches a certain point, whether it be produced by disease of the kidneys or by disease of the heart, the skin sometimes gives way; it cracks, or it ulcerates, and out of the opening, there may

be one or several, the fluid exudes and the whole body even may be emptied of its dropsical effusion through a fissure of this kind. This accident, no doubt, was what led originally to the puncturing of dropsical parts, nature having shown the way for the application of this remedy. On one occasion, while I was a student, and visiting the Pennsylvania Hospital, I saw a patient who had general and excessive dropsy, from what cause I cannot now remember, possibly from the effect of cold. She could not lie down, her limbs had become so vastly distended; and, when it was thought that she could go no further, when medicines had failed entirely to produce any diminution of the effusion, suddenly one morning there appeared upon one of the ankles a little fissure and through this, the whole of this fluid was evacuated, amounting, literally, to a tubfull. In the present case, you see that a stream of water is running down the leg, and that it proceeds from a little opening about the middle of the tibia on the inside of the leg. This discharge appears to have taken place where the skin was naturally thin and where it was rendered weaker by the existence of an old cicatrix. This fact illustrates, what you should bear in mind, that all cicatricial tissue is feebler than natural original tissue.

Now, what is the cause of the dropsy in this patient? Here is a mere memorandum of her history. She states that some time ago, (the date is not specified,) she began to suffer pain in the left side with palpitation and difficulty of breathing, so much so, that on going up stairs, she thought she was in danger of dying. She states that on the 4th of January she had a chill, followed by a sharp pain in the left side and the next day she noticed that her right foot began to swell, then the other leg and afterwards the abdomen. She had some cough with a frothy expectoration. She coughed up a teaspoonful of blood on Tuesday last.

I want you to notice in her case, the cardiac murmurs which are produced by the physical cause of the dropsy. You will be able, on listening to the heart, to understand very readily why there should have been such a large amount of dropsical effusion, and why it should have occurred so rapidly. You will learn, on auscultation, that near the apex of the heart there is a loud, rough, regurgitant murmur, that is to say, a murmur synchronous with the impulse, and which is also audible in the left side and back, and which, therefore, must be inferred to be caused by a regurgitation of the blood through the natural orifice. On placing the instrument over the root of the aorta, you hear another loud murmur, a less rough one than exists over the ventricle, but, at the same time, a very loud one. Of course these physical signs show that there is a contraction and roughness of the mitral orifice and that there is a contraction probably without roughness of the aortic valves. So that there is a double obstruction in this heart and amply sufficient cause of the dropsical swelling. I should have mentioned in its proper place, perhaps, that besides the swelling of the legs in this patient there is also a swelling of the abdomen. It is shown to be dropsical by these two physical signs, namely, that it is dull on percussion and that there is fluctuation when the proper mode of using that test is applied to it. It is not my intention to furnish a complete history of this case, my object being merely to illustrate some points in the history of cardiac dropsy.

I have, gentlemen, to exhibit to you, I am sorry to say, some of the organs taken from a patient who was before you several weeks ago, one of those cases of paraplegia, which we endeavored to study as accurately as possible in order to form a proper judgment as to the nature of the disease and the mode of treatment most appropriate for its relief. This case you will, perhaps, remember from

these circumstances. The man was large, had dark hair, and was quite intelligent; an Englishman, I think, by birth. The principal points in his case, which I wish to call your attention to are these, that at the time of his examination, the lungs were perfectly normal; and that he complained of pain along the spine, but most, however, at its lower part. This pain was increased very much when he bent the spine forward, and was not felt upon pressing the sides of the spinal column, but was elicited by striking the spinous process. There was impaired sensibility from the middle of the lumbar region downwards, extending of course, therefore, to both lower extremities. There was also an inability to raise either limb to a horizontal position, while the patient was sitting; he could lift the right leg somewhat higher than the left, though neither of them could be completely extended in this way. There was, as you observed, great pain in the spinal column, pain increased by pressure upon the spinous process and by percussion. With that diminished power in the lower limbs there was impaired sensibility; but neither function was completely lost. This patient was afterwards attacked with pneumonia of the right lung. In connection with this attack, I wish to impress it upon you, that although we are in the habit of speaking of pneumonia as caused by cold, it is not always so. This patient was confined to his bed, and therefore not able to leave the ward at all; he was always in a temperature which, if anything, is warmer than is necessary, and yet he was attacked with pneumonia. It required no exposure to the northeast wind, which was prevailing at the time, nor to the wet weather which also existed, to occasion this attack; the patient, having all the comforts of a bed in a warm room, was seized with a fatal pneumonia of the right lung. The characters of that pneumonia were these: not mere dullness from the

top to the bottom of the lung, but absolute flatness on percussion, showing that the whole lung had become rapidly and completely solidified. On auscultation there was heard a loud high pitched bronchial murmur, or blowing sound; from the top to the bottom of the lung, which was only mingled, here and there, with a little loose humid rhonchus or gurgling. There was a complete absence of the usual auscultatory signs of pneumonia as far as rhonchi were concerned, no crepitus, no sub-crepitus, and, indeed, nothing of the kind, for the lung had become immediately and completely solidified. In consequence of this state of things there was also a want of the ordinary characteristic sputa of pneumonia. Those sputa are, you know, semi-transparent, very tenacious, tinged with blood, at first reddish in streaks, or in spots, then more intimately mixed with the tenacious jelly-like matter which is thrown up; but tenacity and density are the peculiar qualities of the sputa in this disease. In this case no such sputa were observed; they were watery, almost transparent and of a slightly reddish or a brownish color.

You will see how these facts are explained by the post-mortem examination. The weight of the right lung is more than three times as great as that of the left lung, and certainly, it would appear to me, as I hold them, that the difference was still greater. Notice, if you please, the appearance of the left lung after death. You see that it is entirely flaccid, that it crepitates under the fingers, that the free edges of it are evidently very light. They contain a great deal of air, and when I throw a portion of it into water, you will see, as I have shown you on other occasions, that it floats high upon the surface. Now, I will put into that water a portion of the solidified lung, and you will observe the difference. It goes at once to the bottom. You see, therefore, how completely this

lung was impervious to air and when I say that, understand that I do not describe to you a mere anatomical fact, but a very important physiological fact as connected with this patient. That is to say, he was deprived of half his power of breathing, because the right lung being infiltrated, all of its vesicles from top to bottom being completely occluded, of course the air which entered the bronchial tubes of that lung underwent no change whatever; it returned from the lung precisely as it entered; so that whatever breathing was done by this patient, whatever modifications took place in his blood, were effected by the left lung altogether. Please to notice, further, the color of the lung. Here you see a normal lung, more or less engorged, post mortem, it may be presumed. Now contrast that with this infiltrated lung, and I do not select, for making the contrast, the portions that show the difference most strikingly. What you will chiefly notice is the paleness, the grayish condition of the infiltrated lung. The reason of its presenting that color, as you will at once understand, is that the blood did not circulate through its vessels. So you see that, first, the air could not get to the blood, because the lung did not expand and collapse alternately; the blood could not get to the air in that lung because its cells were filled with solid fibrin; thus you will understand the mechanism of the symptoms and of the cause to which the death of the patient may be immediately attributed.

There was something more than this. In this infiltrated lung, the condition of which I have shown you, and which is technically known as gray hepatization, there was a large amount of fibrin. You will notice that it is in vain that I attempt to pass my finger through the sound lung. I might do it by long continued pressure and by screwing my finger around, I might finally bore through it, but, by direct pressure, I cannot pass my

finger into its tissue. Let us look at this lung. At any part I can thrust my finger into it easily. Now, what has happened here? Not only has the blood been excluded from this lung, not only has this fibrin been poured out into the lung rendering it brittle, but a further change has taken place, an inflammation of the lobes by which the proper tissue of the lung has become softened; and if this patient had lived long enough, it is very probable that the softening would have gone still further and a large abscess been formed in some part of the lung.

I might say a great deal more about these interesting specimens, but I know that my time is very limited and I must content myself with showing you the spinal cord. There is no longer much to exhibit here, and you will have to take my word for what I cannot demonstrate. When this spinal cord was removed yesterday, the body had already undergone sufficient decomposition to render it offensive, and therefore, the cord mnst have suffered some alteration. We could only judge of the amount of softening during life, from the relative condition of the different parts of the cord; but this much was evident, that, whereas, at the upper part of the cord very considerable resistance was offered when pressure was made either with the finger or any hard instrument, at the lower end of the cord the tissue of the organ was reduced almost to a pulp. Its form was preserved, but the tissue had become entirely soft, not as soft, it is true, as it is today, for you see that, apparently, it has no organization at all, and is reduced to a mere paste. As we advance from below upwards, the cord becomes, more or less harder than it is below. It is true that at its upper part, or at the lower part of the cervical or upper portion of the dorsal division, there is a little more softening than was found in the middle. The main point is that the

lower or lumbar portion of the cord has undergone a very marked degree of softening, which is still perfectly distinct.

Here then you have an anatomical reason for the symptoms which were observed in the case when it was before us, and you have also a proof that all the remedies which we might have adopted, whether those which the patient was using and which seemed for a time to do him good, or those which he might afterwards have taken, or had applied externally, would have been utterly unavailing; for it cannot be supposed that such a condition of the spinal cord could possibly be cured.

I have another specimen here, taken from a woman whose history you know nothing of, in fact, I have not a great deal to tell you about the history myself. The woman was advanced in life, and like many persons of the laboring class, she was older by the decline of her physical power than in years. She was remarkable for her very white hair, which, however, is not always a sign of age, many young persons having white hair, but she was 72 years of age. She was still more remarkable for the singular pallor of her skin; it was so white as to appear unnatural to an unscientific person; so white, indeed, that there was not a very marked contrast between it and the color of her hair. There was nothing in the history of the case that indicated very clearly the cause of her sickness; I believe that she complained mostly of catarrh. She died from exhaustion, probably from the persistence of the bronchitis, for bronchitis, you should not forget, is a very fatal disease in old persons. However, during my examination of the chest, I, of course, examined her heart, and I found over the left ventricle a very strong systolic murmur, a rather high pitched murmur and not at all rough. I mention these facts because, considering the condition of the woman's skin and the appearance of

extreme anæmia that she presented, I felt very much in doubt whether the murmur which I heard in her heart might not be a simple functional murmur, dependent upon a watery condition of the blood. Nevertheless, after listening for a good while and noting carefully the pitch and tone of this murmur, I came to the conclusion that it had not the requisite degress of softness for a purely functional and anæmic murmur and that there was more or less lesion of the mitral valve. This conjecture has been verified by the lesion which I here exhibit to you. You will see that the edges of the mitral valve are completely fringed with what may be called a collar of little round granules, so as to render them very thick indeed, and, at the same time, more or less rigid. Had the woman's life been prolonged, they would have, no doubt, become perfectly rigid.

ART. II—ENCYSTED PTERYGIUM AND BLACK CATARACT. Reported from the Clinic of M. Alphonse Desmarres. By R. H. RUDD, A.M., M.D., Louisville, Ky.

CASE I. Lesprit; aged 46; native of France; street sweeper; came to the clinic of M. Desmarres, November 13th, with a large encysted pterygium of the right eye, nasal side.

The patient said he had never suffered from any affection of the eye and his health had always been good, indeed his appearance indicated the most perfect health. The pterygium commencing at the membrana semilunaris had grown rapidly, and when we saw him, it extended about six lines over the cornea, presented a bright, tense and glistening appearance, quite vascular but without pain. M. Desmarres seated the patient in front of him and his lids bring separated by myself, he took hold of the pterygium with hooked forceps (the cyst was imme-

diately evacuated of its contents). He dissected the pterygium from the cornea and with a small pair of scissors cut the conjunctiva on both sides of the pterygium to its base, after which he cut with the scissors the conjunctiva below and outwards from the cornea, then with a suture took the extremity of the pterygium deviating and united it with the conjunctiva below. Treatment, cold water dressings. The third day after the suture was taken out and the pterygium sloughed off.

The old operation of cutting the pterygium off at its base is now given up by the Parisian surgeons, for the reason that it almost always returns, while, by the operation of deviation and suture it does not return.

Case II. Lagorce; aged 41; stone cutter; native of France; good constitution—cleft palate. Came to the clinic of Alphonse Desmarres with a hard (black) cataract of the right eye. The patient complained of gradual loss of sight of long duration. Operation proposed and accepted. The patient was seated on a low chair in front of M. Desmarres and I held the lids apart. The operation was to have been superior keratotomic, but after making the first incision quite a flow of liquid followed which was first supposed to be aqueous, but soon discovered to be vitreous humor. M. Desmarres seeing the vitreous body liquid, to avoid the further escape of the humor and consequent hæmorrhage, *ex vacuo*, etc., abandoned the operation and put a on cold water compress. Saw the patient each day; at the expiration of a week he left the clinic well, without any bad symptoms. Since this patient was here, have seen two or more hard (black) cataracts; the cataracts not being complete, no operation was proposed. It is said this class of cataracts are very rare, but I have seen eight or ten in sixteen months, and M. Desmarres has operated on more than twenty.

ART. III.—USE OF THE SUSPENSORY TRUSS IN INFANTILE HERNIA, DIRECT, VAGINAL AND SCROTAL, WITH REPORT OF ITS SUCCESSFUL APPLICATION IN DOUBLE SCROTAL HERNIA IN A CHILD ELEVEN MONTHS OF AGE. BY H. V. GRAY, M.D., formerly Surgeon Artillery Confederate States Army, and now Lecturer upon Anatomy and Physiology, Roanoke College, Virginia.

I don't intend detailing the anatomy of hernia and its different varieties, any further than they may serve my purposes in elucidating the case under consideration, as it is presumable every intelligent physician has a proper understanding and appreciation of its importance.

The case under consideration is as follows:

On the morning of the 5th of October, 1867, Mr. John Oakey, a citizen of Salem, called to consult with me in relation to his little child, eleven months of age, whom he reported "badly ruptured on both sides and down in the bags, and after having tried several physicians, trusses, &c., faithfully, called to see if I could give any relief to the little sufferer," offering to give me any sum. I replied that such cases were difficult to handle, but would give any assistance in my power. After an examination, I found it to be a case of double scrotal hernia, the sac containing both omentum and intestine, entero-epiplocele. I found the external abdominal ring sufficiently large, without either contraction or adhesion, and consequently under use of bath was reduced without much difficulty. I left the case for reflection and promised to call again. During the interval of reflection, I considered the ordinary truss totally worthless, as I did the adhesive plasters, as they were worn without comfort and not applicable to such cases. I visited Messrs. Therman & Newton's drug store (where you may expect every thing in their line) for the purpose of obtaining a suspensory bandage, to be applied simply to oppose gravitation, by supporting the scrotum. On the 8th I returned, carrying with me a

properly sized bandage, and in fitting it imagined something else might be accomplished by causing pressure against the integuments over the seat of the external ring; so I requested Mrs. Oakey to get me two bull-eye buttons, between two and three inches in circumference, and cover them with chamois skin, sewing them on each side of the penal fenestra, holding the penis perpendicular to the axis of the erect body, on a line drawn from its extremity (or gland) to a point just above and on the outer side of the crest of the pubes, accepting this as a guide for its application. I then applied it and it has come down but twice since that time to the present, and only then under violent wind colic and griping in bowels. It has now remained up one month without any bandage on "the suspensory truss," yet the child suffering much meanwhile with "summer complaint." This suspensory truss can be worn day and night without fear of injury to the cord, as it imbeds itself into the tissue only sufficiently deep to oppose descent; yet, from the tissual elasticity, not enough to cause it injury. The use of the truss for a few years will, by the growth of the child, its organs, etc., and a gradual occlusion of the ring, bring about a radical cure and avoid those horrible radical operations. "As for the old fashioned attempts to obtain a radical cure by cutting out the sac, or by including its neck in a wire or other ligature, or by making a large slough of the superjacent skin by means of red hot iron on M. Belmas' scheme of poking little bladders of gold beater's skin, upon sticks of gelatine, into the neck of the sack for the same purpose, the less that is said about them the better." The above quotation should sink deep into the hearts of every one, as words of one no less than the celebrated Druitt, and as far as I have witnessed such operations, I have not one successful one to record. I claim for this "suspensory truss" its perfect

adaptability to all cases spoken of in the caption of this report. Directions for use: keep on hand half dozen of the "trusses," as they should be renewed every twenty-four hours, otherwise, from urine, etc., they will soil and chafe the skin.

ORIGINAL CORRESPONDENCE

"Sit mihi Fas scribere audita."

LONDON, ENGLAND, 1868.

I landed at Queenstown, Ireland, on the 16th of June, and visited Cork and the Killarney Lakes, after which I went to Dublin, where I spent about two weeks most delightfully. I met Stokes, Sr. and Jr., Wilde, Hamilton, Banks, Beatty, Mapother and others. I went to Edinburgh where I met Sir James Simpson, Syme, Hughes Bennett, Watson, and quite a number of the other notabilities. I went with Bennett to the Edinburgh University and saw his dogs, on which he was making his experiments, which seem to say that our ideas of the action of *mercury* have not been correct. I spent about two weeks there most agreeably, and just missed Dr. Freer and Dr. Chas. G. Smith, who had been there a few days before. From there I returned to Glasgow, and spent a few days more and then went to Liverpool, and spent a couple of days in looking up the sanitary matters of that city, which are admirably conducted, and their system of public baths and wash-houses is a credit to any city. I have examined that matter closely in all the cities I have visited, and Liverpool compares most favorably, as far as I have seen. From there I went to Chester, to see a fair specimen of an old walled city. From there I came to Lon-

don, and in the three weeks I spent here, I met Sir Wm. Ferguson, Erichsen, Bowman, Critchett, Solly, Spencer, Wells, Hutchinson, Sibson, Lawson, and saw most of them operate. I have visted Guy's, St. Bartholomew's, London, Charing Cross, Royal Ophthalmic, Westminster Ophthalmic, Southwark Ophthalmic, Royal Orthopædic, and quite a number of other hospitals, most of which have colleges, as you know, connected with them.

I start for Paris, where I shall remain a short time, and be in Heidelberg on the 3d, 4th and 5th of September at the Congress of the Ophthalmia men of Europe, where, it is expected, Graefe, Donders, Stellwag, Arit, Critchett and others will be. After that I expect to go to Berlin, Dresden and Vienna, and if, in the meantime, I can catch a few spare hours, I will try to place the result of them at your disposal.

The thirty-sixth annual meeting of the British Medical Association occurred at Oxford, on the 4th of August, and was organized by Professor Stokes, of Trinity College, Dublin, the President of the Association for the past year.

In accordance with the custom of the Association, after organizing the meeting, the President delivers a valedictory address and resigns the chair to the President elect, who delivers an inaugural address, which duty this year devolved upon Professor Ackland of the University of Oxford. This generally completes the work of the first day. The next day generally begins the real work of the meeting. The arrangements for the general meetings of the entire Association and for the different sections of medicine, surgery, obstetrics, etc., are made, and assignment is made to each of its proper share of work. The delegates from the other Medical Associations are then admitted. The American Medical Association was this year represented by Dr. S. D. Gross and Dr. H. E.

Goodman, of Philadelphia. Dr. Fordyce Barker, of New York and Dr. S. J. Jones, of Chicago, as delegates to the Oxford Meeting.

During the general meetings of the Association addresses were delivered by Professor Rolleston, of the University of Oxford, on Physiology; by Dr. Gull, of London, on Medicine, its present status, etc.; by Professor Haughton of Trinity College, Dublin, "Sources of vital and mechanical force derived from food, and its influence on medical practice," and by Professor Bennett, of the Edinburgh University, on the action of mercury. The latter address was accompanied by tables showing the result of a series of experiments (upon dogs, in which biliary fistulæ had been made, under Professor Bennett's direction), which are adduced as evidence that mercury does not increase the secretion of bile. The recognized position of the author of the address, the apparent care with which the experiments were conducted, and the importance of the questions entitled the subject to consideration, and lead us to hope that something satisfactory may result from the experiments to be continued.

The report of the Joint Committee of the British Medical and Social Science Associations on Public Medicine, appointed last year, was presented in the general meeting, and various subjects bearing upon the advancement of the medical profession, and regarding sanitary science, were considered. In medical education, the same difficulties are experienced and the same questions agitate the teachers, and interest the profession at large, in Great Britain, that have received so much attention in the United States, as to how the standard shall be elevated, and the proper protection secured for both practitioner and the public. Much is hoped for here from the establishment of the British Council of Medical Education, the only legal Medical Association of Great Britain.

The President's soiree was given at the Museum of the University, and afforded all an opportunity of examining that, and the "Annual Museum" of the Medical Association, which was inaugurated this year, and opened for the session in the building of the University Museum. It is a beginning of what promises to be an interesting feature of the annual meetings, and is one worthy of the consideration of the American Medical Association. The design is to show the advancement made in the profession from year to year by annually collecting together during the session, wherever it may occur, of new surgical instruments, interesting pathological specimens, valuable new medical works, etc., etc. Prominent among the latter, this year, were the works issued from the Surgeon General's office of the U. S. Army, and the flattering and frequent allusion made during the meeting to the American contributions to medicine and surgery were very gratifying. Before adjournment, the appointment of a deputation to attend the next meeting of the American Medical Association was authorized—their first delegates to that association.

The work of the sections is arranged much in the same manner as that of the American Association, the organization of the two associations being almost identical. A printed daily bulletin is issued here, stating the work of the different sections for the day, in addition to matters of general interest, which, if imitated by our own association, would prove a convenience to the members.

In the surgical section, much of interest was presented, though comparatively little that was new. The subject of torsion as a hæmostatic means received considerable attention. The results of quite extended experiments were given, and seemed to indicate that in the medium and small size arteries it is reliable and valuable, but could scarcely be considered so in large vessels. Acupressure was not

specially considered. On the subject of the value of carbolic acid in surgery, much difference of opinion was manifested as to the range of its applicability.

One of the most ingenious apparatuses presented at the meeting was by Dr. Adams, of Maidstone, England. It is an instrument which he has devised for measuring the field of vision, which seems to be very reliable, and if so, will prove a valuable aid to ophthalmic surgeons, in supplying what has long been needed. It consists of a glass hemisphere, supported on an iron rod, with a slide to accommodate it to the height of the patient's eye. The eye of the surgeon is opposite that of the patient, who can thus see if the patient changes his eye in marking the field of vision, which is done by noting with a piece of soap on the glass hemisphere the limit of vision. The hemisphere is divided into meridians of longitude and parallels of latitude, and by having a similar diagram drawn on a small scale on paper, a convenient mode of recording the case for future use is afforded.

Many other matters of professional interest were presented in the different sections, but comparatively little that is new. Before adjourning, the annual elections took plaee, and Leeds, England, was decided upon for the next meeting, and in compliance with a rule of the Association, which requires that the President for the following year shall be from the district in which the meeting is to be held, Dr. Chadwick, of Leeds, was chosen as the presiding officer for the next term. S. J. Jones.
—[*Chicago Med. Jour.*

Amity, Orange Co., N. Y., 1868.

Dr. Sayre: *Dear Sir*—In reply to your note of 1st inst., I would state that an abstract of the report of the case may be found in the published transactions of the

State *Medical Society* for 1855, pp. 151, 152 and 153. It may be proper, however, to recapitulate the facts briefly:

J. R., æt. 18, of a feeble constitution and melancholy temperament; was observed by his parents, during the autumn of 1852, to conduct himself very strangely, complaining of headache, &c. Of this but little notice was taken until about the 1st (4th) December, when a strange delusion manifested itself, among the most prominent symptoms of which was great fear lest he should be assassinated. Two men, as he alleged, were constantly after him for that purpose. To avoid this (to him) seeming impending fate he would make his escape from the house and retreating to the swamp adjacent, mount the first tree presenting itself. On being assured by his friends of his safety he would descend and return to the house, but he soon would endeavor to make another escape from the same cause.

This state of mind continued for some time. He then changed his course of action. From fear, he changed to a desire for self-destruction. To effect this he tried every art of which he was master. At one time he would attempt to drown himself; at another, would attempt to strangle himself by twisting his cravat about his neck; at another, to cut his throat. Failing in all these, he next tried to effect his object by swallowing various articles, among which were those found at the *post mortem*, viz:

A clock key (double angled), silver spoon and spectacles, the dimensions of which are as follows: The spectacles, when folded (as when found), measured, in length, 4½ inches, breadth, 1⅛ inches; length of spoon, 6 inches; tube of key, 1⅝ inches; upright, 2½ inches; handle, 1⅝ inches.

These are a few of the most prominent facts concerning this most singular case, and *all* that appear to be necessary, as the fact of the *swallowing* is the only one required

for publication. The articles are now in the possession of the family, and can be seen at any time by any one having the desire to. Respectfully yours,

H. C. Seely, M. D.

Dr. L. Sayre. [Forwarded by Prof. Sayre.—Ed.]

Carter's Bridge, Va., 1868.

Apparent Exercise of Volition during Anæsthesia Complete in all Other Respects.—Called, March 3d, 1868, to M——, æt. 10 years; female, nervous temperament fully marked; suffering with odontalgia; was very unwilling to allow extraction of the diseased tooth and closed the jaws so strenuously as to successfully resist every effort to part them. At the solicitation of the parents, I subjected her to the influence of chloroform, during the administration of which, she had to be forcibly held upon the couch, so great was her repugnance to extraction, even when assured it would be painless. I repeated my efforts to separate the jaws, while anæsthesia was yet imperfect, but opposing volition was still exercised and baffled the attempts. During this period she opened the mouth and permitted an examination of the tooth, under the assurance that I would not attempt its extraction. When every other evidence of full and complete anæsthesia was present, I still found the jaws so strongly held together as to necessitate leverage in opening the mouth for admission of the extracting forceps. The resistance was not such as we find in tonic spasm, but appeared to be the result of voluntary effort, and never yielded, though the anæsthetic was used until the condition of the pupils and pulse forbade its further employment. There was not the least sign of any spasm or rigidity of any other muscles of the system, but, on the contrary, the usual relaxation.

W. H. Shepherd, M.D.

HOWARD'S GROVE HOSPITAL,
RICHMOND, VA., July, 1868.

Ida Goodman, a stout, healthy, mulatto woman, æt 19, having strained herself in lifting a washing tub, aborted at the sixth month. The labor was an easy one and she had a good getting up. No discharge of any sort appeared until the third day, when she began to sweat most profusely. This continued for several days, when I commenced to give her aromatic sulphuric acid, to see if the lochia, which had not yet appeared, would not become established. In thirty-six hours after she commenced taking the acid the sweating ceased and the lochia appeared. I then stopped the acid, the lochial discharge was suspended and the sweating reäppeared. I gave the acid again with the same effect as before. At the end of the third week the sweating ceased entirely, the lochia having never returned. There was an increase in the sweating at night, which seemed to be an evidence of the existence of hectic fever, but this could not have been the case, for she was as free from tubercle, and every other cause of hectic fever, as any body could be; she did not have fever of any sort for twenty-four hours during the month, and the sweating did not exhaust her at all. The sweat was quite offensive and had somewhat the odor of the lochia. There was a large secretion of milk, and at the end of three weeks she was well, and able to return to her work.

JNO. D. UPSHUR, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

De la Génération des Elements Anatomiques. Par le Docteur G. Clémenceau, Ex-interne des Hopitaux de Nantes, ex-interne provisoire des Hopitaux de Paris. Prèsìdè d'une Introduction par M. Ch. Robin, Membre de l'Institut, Professeur à la Facultè de Mèdecine de Paris. Paris: 1867.

This work is an earnest and very able vindication of the views which prevail in France, in respect to the origin of cells and the genesis of the animal tissues, in opposition to the more widely diffused doctrines of the German schools. It consists, for the most part, of a summary of the opinions and arguments of Professor Robin, by an enthusiastic admirer of that distinguished representative of the French school. The subject is one that commends itself to our attention by its relations to interesting and important questions in general physiology and pathology. A brief review of the prominent theories on this subject seems to be especially necessary at the present moment, when the extraordinary phenomena of the emigration of white blood-corpuscles, substantiated by the recent researches of Recklinghausen and Cohnheim, are opening out new views touching the origin of exudation products.

Schwann, in 1838, applying to animal organisms the views which Schleiden had just promulgated concerning the genesis of cells in plants and the metamorphosis of these anatomical elements into the various vegetable tissues, taught implicitly not only that all the animal tissues are formed from cells, but that these histological

elements are independent, anatomically and physiologically; that they stand in the relation of *causes* or *centres* to organization and the organizing force, and that the whole organism is the result of the union and combined operation of these primarily separate elements. He recognized more than one mode of origin for cells. In some cases they are the offspring of previous cells by direct genealogical descent, arising either by fissiparous division of the parent cells, or by gemmation, or by endogenous multiplication, a brood of young cells being developed out of the nucleus of a persistent mother cell. The essential part of the process in these three modes being the same, they are now usually referred to under the common name of "*proliferation*" of cells. In other cases, however, and especially in all cases of pathological productions, Schwann recognized the so-called "free formation" of cells, or a genesis of cells *de novo* out of a structureless blastema or cytoblastema by a kind of organic crystalization. In a fluid containing organic matters dissolved in considerable proportions, a granule, the *nucleolus*, is precipitated. Once formed, this attracts nutriment from the cytoblastema and thus becomes the *nucleus*. This attracts to itself a substance which, becoming more and more condensed, at last forms a membrane, which, by the absorption of fluid cytoblastema, becomes detached from the nucleus, except, perhaps, at a single point of contact, and is known as the *cell-wall*. Thus is completed a spheroidal cell which, by various transformations, gives rise to different animal tissues.

These views were pretty generally adopted, almost without critical scrutiny, and were dogmatically taught in the schools until, in 1853, Prof. T. H. Haxley gave the cell theory a rude shock by an elaborate and masterly criticism in the British and Foreign Medico-Chirurgical

Review for October of that year. In that paper he maintains, in direct antagonism to the views of Schwann and Schleiden, that the primary histological elements are not either anatomically or physiologically independent; that they stand in the relation of *effects*, not of *causes*, to the organizing or vital force, and that the organism results from the "differentiation" of a primarily homogenous whole into these parts.

For Schwann, "the organism is a bee-hive, its actions and forces resulting from the separate but harmonious action of all its parts." For Huxley, "it is a mosaic, every portion of which expresses only the conditions under which the formative power acted and the tendencies by which it was guided."

He holds further that the primary differentiation of a structureless blastema into cells is not a necessary preliminary to further organization; that the cells are not machines by which alone further development can take place; nor, even with Dr. Carpenter's restriction, are to be considered as "instrumental" to that development. "They are not instruments, but indications. They are no more the producers of the vital phenomena than the shells scattered in orderly lines along the sea-beach are the instruments by which the gravitative force of the moon acts upon the ocean. Like these, the cells mark only where the vital tides have been and how they have acted."

The promulgation of these views, which were sustained with great force of reasoning and a perfect command of special knowledge, had the effect of shaking the confidence with which teachers of physiology had been wont to dogmatize on this subject, when Virchow and others in Germany rallied to the support of the cell theory, and, while rejecting a part of Schwann's teachings, especially on the possibility of free cell-formation, gave great extension to his doctrines in other directions.

According to Virchow, it is absolutely true that "*every animal presents itself as a sum of vital unities*, every one of which presents all the characteristics of life. The characteristics and unity of life cannot be limited to any one particular spot in a highly developed organism (for example, to the brain of man), but are to be found only in the definite, constantly recurring structure which every individual element displays. Hence it follows that the structural composition of a body of considerable size, a so-called individual, always represents a kind of social arrangement of parts, an arrangement of a social kind, in which a number of individual existences are mutually dependent, but in such a way that every element has its own special action, and, even though it derive its stimulus to activity from other parts, yet alone effects the actual performance of its duties." He thus regards the cell as the ultimate morphological element in which there is any manifestation of life and contends that we cannot transfer the seat of real action to any point beyond the cell.

Wholly rejecting Schwann's doctrine of free cell-formation, he regards every cell as being lineally descended from a previous cell. *Omnis cellula ê cellula* he holds to be as true a maxim in histology as *omne vivum ex ovo* is admitted to be in regard to the generation of the complete animal, denying the possibility of spontaneous generation in the one case as in the other. Moreover, he considers the connective tissue, which is so universally distributed among all the other tissues, to be a common stock of germs which, by "proliferation," furnish the anatomical elements of all new or pathological formations, pus, innocent tumors, tubercle, cancer, &c.

These peculiar views of Virchow were soon assailed by Robin, undeniably the ablest histologist of France, in a series of papers published from time to time in medical and scientific journals, dictionaries of medicine, &c. A

summary of his views, duly unitized and perspicuously presented, constitutes the bulk of Dr. Clèmenceau's well-written work.

These gentlemen give their assent to the doctrine of Schwann and Virchow respecting the federal nature of the union between the component anatomical elements of the body. "What Mirbel said of the plant may," they say, "be applied also to man. He is a collective being—a federation of anatomical elements. His individuality is but a synthesis of theirs." But in all other respects, their views are in direct antagonism with those of Virchow. They deny that cells multiply chiefly by "proliferation," which they consider to occur only in a few exceptional cases, and they contend earnestly that "spontaneous generation," by a synthesis of proximate principles, is the true mode of genesis both for cells and for the higher tissues. For they reject the commonly accepted doctrine of the transformation of embryonic cells into the permanent tissues of the body, which doctrine, they allege, has this foundation and no other, namely: that in the embryo the different tissues and organs are preceded by groups of cells, but these cells, they contend, are not transformed into the tissues which replace them. They only liquefy and disappear *pari passu* with the development, or rather genesis, of the new tissue which is thus *substituted* for the cells. Hence they denominate this process "birth by substitution," or more accurately "birth of the tissues under the condition of substitution."

We believe that the doctrines of Robin have a large body of adherents in his own country, but elsewhere the teachings of Virchow have been steadily gaining ground, until now they are almost universally adopted outside of France. This has been brought about in a good degree, we think, by the facility with which his doctrines may be applied to the interpretation of pathological processes.

Certain it is that his treatise on "Cellular Pathology," and his more recent work on Tumours have been largely instrumental in giving currency to his histological and physiological doctrines.

It would appear, however, that his ascription of the origin of pus cells to the prolification of connective tissue corpuscles requires very considerable modifications, if we may credit the reported results of the remarkable researches of Recklinghausen and those of Cohnheim, to which allusion has already been made in the beginning of this article. These observers seem to have clearly established the fact, that pus cells are really nothing more nor less than white blood corpuscles which have emigrated from the interior of unbroken blood vessels. The impossibility of distinguishing white blood corpuscles from pus cells had been insisted upon by Prof. Bennett, of Edinburgh, many years ago, in his famous controversy with Virchow respecting his disputed claim to be considered the discoverer of the pathological condition of the blood now known as Leucocythæmia, but there was no conclusive proof of identity. Now, however, abundant proof of their identity seems to have been furnished by the observations of Cohnheim, who not only found certain kinds of coloring matter, which he had previously injected into the veins of frogs, in both the white blood corpuscles and in the pus cells, while they were absent from all other parts of the body, but also actually witnessed the amœboid contractions and movements by means of which the blood corpuscles passed through the walls of the vessels. The coats of the vessels are permeable because between the epithelial cells lining their inner surface there are apertures (stomata) discovered by Oedmausson, and the other coats being composed in great part of connective tissue, possess the canals discovered by Reckling-

hausen, and these readily allow the passage of the blood corpuscles, endowed, as they are, with the power of amœboid movements. Identifying thus the blood corpuscles in every stage of the process, before they left the interior of the vessel *in transitu* through its coats, and finally as an exuded product, with all the characters of pus, these observers maintain that pus corpuscles are not, as Virchow taught, the results of the proliferation of connective tissue cells, but are really emigrated blood cells.

Whether these emigrating little organisms are capable of playing, and do actually play, any other part than that of degenerating into pus does not yet appear. Until this is made out, these very interesting researches cannot be held to have yet discredited Virchow's doctrines as to the origin of the solid neoplasms or that of the various normal tissues of the body. J. L. C.

Watters on the Doctrines of Life.—We find, from a recent number of the St. Louis Medical and Surgical Journal, that a controversy has arisen between Dr. W. B. Carpenter, of London, and Dr. J. H. Watters, of St. Louis, as to the priority of announcement of certain doctrines of life.

Dr. Watters wrote and published, in 1851, an inaugural thesis for the degree of Doctor in Medicine in the University of Pennsylvania, in which he distinctly announced and elaborated certain doctrines of life; and Dr. Carpenter, in his edition of Physiology for 1864, adopts and expresses the same views without giving credit in any degree to Dr. Watters. In a published address, to a class of students, contained in the St. Louis Medical and Surgical Journal, for January and February, 1868, Dr. Watters reiterates his views on life and refers to this neglect on the part of Dr. Carpenter.

Under date of March 16th, 1868, Dr. Carpenter addressed a letter to the same Journal, which appears in the number for May and June, in which he denies having profited in his writings by Dr. Watters' thesis, and says: "And whatever I have since written," (since 1850) "on the subject has been but a reproduction in my own language of my original ideas, with such modification as the advance of science has suggested to me, as any one may see who will take the trouble to make the comparison."

Dr. Watters replies through the same Journal, under date of June 27th, and appeals to the record, which he furnishes for the July and August number of the same Journal, and shows unquestionably, that Dr. Carpenter abandons his doctrines of 1850, and substitutes the doctrines of Dr. Watters in his edition of 1864. It is due to Dr. Carpenter to state, that he recognizes the *advance* which he considers to have been made on the subject by Professor Le Conte, of South Carolina.

It seems that another English author has been appropriating Dr. Watters' ideas on life, without giving him recognition, in a book which appeared in 1862, on Life in Nature, by James Hinton, M. R. C. S., after Dr. Watters had taken the trouble to supply him with copies of his writings. English authors are not, generally, disposed to recognize originality in American writers, and the course, both of Dr. Carpenter and Dr. Hinton, forcibly illustrates this truth.

The doctrine of vitality, first promulgated by Dr. Watters, is an exceedingly interesting one, and the controversy now going on will have the effect, at least, to call to it general attention. This doctrine, when properly understood, may induce physiologists and pathologists to modify some of their notions relating to vital actions. It may be a guide in therapeutics, and even theologians may stoop to find demonstrated new views of life.

The following is an outline of the teachings of Dr. Watters, which he has elaborated with rare learning and logical ability.

The first, or Divine endowment in all organized beings, is a *germ* or *mechanism*. Under proper conditions, the ordinary forces of nature, as heat, light, etc., set this mechanism in motion; and the process of *decay* evolves the forces. The workmanship of a clock may represent the mechanism, and the weights—gravitation—represent the force. The grain of wheat found with the Egyptian mummy contained the mechanism which had remained unchanged for thousands of years, but when it became exposed to the influences of moisture, heat, etc., it commenced to decay and to evolve the forces which put the mechanism in motion. There is no distinct life force; no dormant life, as has been supposed; no vital principle; but, (as Dr. Watters expresses it,) "in an organism, the act of resolution of a complex into simpler compounds evolves forces which give direction to chemical and organic actions; and as life is the result, the term organic germ or life force may be employed to indicate the result of these forces. This doctrine is a verification of the teachings of St. Paul, 'that which thou sowest is not quickened, except it die.'"

We find in the August and September number of the St. Louis Medical and Surgical Journal, just received, a letter from Dr. Joseph Le Conte, Professor of Chemistry and Geology, S. C. University, dated Columbia, S. C., August 31, relating to the just claims of Dr. Watters. He says: "I received a few days ago a copy of an article, by Dr. Watters, published in your Journal, entitled, "Doctrines of Life," in which he gives a history of the introduction into physiological science of the idea, that *life force is generated by decay*, and claims for himself priority in the origination of the idea. A careful perusal of his

paper has convinced me that *his claim is just.* * * * If I deserve any credit in connection with this subject, it is for having first clearly apprehended the idea so as to apply it in a definite manner in the explanation of many phenomena of vegetable and animal life, and for having shown a real conservation of force in these phenomena—in a word, for having taken the idea out of the realm of probable speculation and brought it within the realm of true inductive science." B. M. W.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

Nitrous Oxide Gas.—A very opportune discussion took place at the Medical Society of London, on April 13th, on the so-called anæsthetic nitrous oxide gas. A question on the subject addressed to the President—Dr. Richardson, whose authority on such a point cannot be questioned—drew from him a clear and careful summary of its action. It was painful, he remarked, to see the childish excitement with which nitrous oxide and its effects had recently been dwelt on. The gas had been treated as an unknown, wonderful and perfectly harmless agent; whereas, in simple fact, it was one of the best known, least wonderful and most dangerous of all the substances that had been applied for the production of general anæthesia. No substance had been physiologically studied with greater scientific zeal or more rigid accuracy; and no substance had been more deservedly given up as unfit and unsafe for use. It had caused death in the human subject, and on animals it was so fatal that, with the utmost delicacy in its use, it was a critical task thoroughly to narcotise an animal with the gas, without actually destroying life. In some cases, also, animals died after recovering from the insensibility.

Respecting the mode of action of the nitrous oxide, Dr. Richardson explained that it was not, in the true sense, the agent that caused the insensibility. It acted indirectly, and the immediate stupefier was really car-

bonic acid. In fact nitrous oxide is an asphyxiating agent. There are two explanations of this. It may be that the nitrous oxide quickens the oxidation of blood and so causes accumulation of carbonic acid in the blood; or it may be, and this is most probable, that it acts by checking the outward diffusion of carbonic acid. The vapor density of nitrous oxide and of carbonic acid is the same—namely, 22, taking hydrogen as unity; and as diffusion of gases into the blood and out of it is governed by the same laws as in ordinary diffusion, to make an animal breathe nitrous oxide is virtually equivalent to making it breathe carbonic acid itself, the diffusion of carbonic acid being so determinately impeded. The living phenomena were also in character; the arterial blood was rendered venous by nitrous oxide; the animal temperature fell; the skin became livid. And although these symptoms might be induced many times without actually destroying life, they could not be sustained for any length of time without certain disaster. Dr. Sansom followed in nearly the same strain.

In speaking out thus boldly to a professional audience, Dr. Richardson has not spoken a moment too soon. The *ad captandum* method of applying the most potent medicinal agents against the teachings of scientific experiment and the experience of accepted observers, is a phase in physic which requires to be put down with a strong hand. Administration of nitrous oxide, or laughing gas, as it is commonly called, is becoming a pastime for amateurs. We hope these few and timely words will prevent a catastrophe. If they fail, the fault or neglect will not rest with us.—*Lancet.*

"Paper for Surgical Dressings.—Dr. Addinell Hewson (Penn. Hospital Reports), struck with the fact that paper had been used in the place of lint as a surgical dressing, in the recent campaigns of the Prussian army, tested its practicability at the Pennsylvania Hospital, and, after numerous experiments, has settled on the common newspaper as being the best and cheapest substitute for lint, linen rags, or muslin.

"The advantage of economy is no small consideration, as a yard of good patent lint costs thirty-three cents, while a sheet of paper, which equals that article in usefulness as a surgical dressing, costs only one cent.

"Dr. Hewson uses also Manilla paper coated with a

thin layer of yellow wax, in the place of oiled silk. In this way a saving of from four to six hundred per cent. is gained, besides affording the advantage of discarding everything appertaining to the dressings each day, by which one source, at least, of renewing contamination experienced in the employment of oiled silk is avoided." —*Cincinnati Lancet and Observer.*

Comparative Action of Various Disinfecting Agents.—Dr. Beranger-Feraud, of the French navy, after trying wood charcoal, chlorine, chloride of lime, carbolic acid, and protosulphate of iron in deodorizing the bilge water of ships, comes to the conclusion that permanganate of potassa far exceeds them all in rapidity of action and thoroughness of effect, and says: "I made use of a solution of permanganate of potassa, of the strength of half an ounce of crystals to a quart of water. One ounce and a half of this solution, which has a fine crimson color, added to a pint of foul bilge water, effectually removed all bad odor in three minutes, with a change of color to a dirty grayish-brown."—[*Ex.*

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

New Regulations to insure Attendance of Medical Students upon Lectures in England.—The Medical Teachers' Association of England have adopted a rule requiring that no Professor sign any schedule necessary to admission for examination, before any of the examining boards, unless, by the system of marking recently adopted, it appears that the student in question has attended at least two-thirds of the whole number of lectures comprising the course represented by the schedule or certificate. —[*Ex.*

A Desirable Invention.—Dr. W. Leigh Burton, of Richmond, Va., a member of the late graduating class of the Baltimore College of Dental Surgery, has recently been awarded a patent at Washington for an improved electro heating apparatus invented by him.

The primary object of this device is to afford a safe, re-

liable and economical method of heating railway passenger cars.

The heat is evolved by electrical currents and radiated from metallic plates. The principle can also be applied to heating residences, public buildings, etc. It has been submitted to the inspection of several eminent scientific gentlemen, all of whom expressed the belief that it will accomplish the important result claimed by the inventor.

We feel confident that Dr. Burton's expectations will be fully realized.—*Ex.*

In consideration of the numerous victims of homœopathic treatment, a decree of the Emperor of Russia prohibits the practice of homœopathy in his entire territories. [—*Union Medicale.*

Honors.—The Royal Medical and Chirurgical Society of London recently conferred the title of Foreign Honorary Fellow on Dr. Samuel D. Gross, of Philadelphia.

The new law in Ohio, compelling all physicians to suspend practice who have never received a regular diploma, went into effect October 1st.—[*Ex.*

The Medical Department of the University of Louisville was opened on October 1st, the Introductory being delivered by Professor Edward R. Palmer.

The Kentucky School of Medicine commenced its present session on October 5th, the Introductory being delivered by Professor E. S. Gaillard.

Prof. Joseph N. McDowell, of St. Louis, died September 25th. The vacancy thus created in the Faculty of the Missouri Medical College has been filled by the election of Prof. Paul F. Eve, of Nashville, Tenn. The custodians of this College have acted wisely in this selection and have chosen one in all respects qualified to conspicuously add to the well established reputation of their Institution. The writer takes this opportunity of recording his sincere wishes for the prosperity and happiness of his veteran and distinguished friend.

The Trustees of the Medical Department of the University of Maryland have just elected Dr. J. J. Chisolm

Professor of Military Surgery and Pathological Anatomy. This chair has been especially created for this purpose. It is well filled and Professor Chisolm will bring increased strength to the able Faculty of this highly successful and venerable Institution.

Professor Edward Warren, of Baltimore, Md., states, in a circular dated July 1st, 1868, that, in October, 1868, there would be issued by him, "The Baltimore Journal of Medicine and Surgery." This work has not yet made its appearance. Further remarks are postponed until this journal is published.

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

The Relations of Diet to the Waste and Repair of Tissues.—There is no subject, in the history of Medicine, which has deservedly created more attention, than the object and results of different forms of diet, in the prevention, and treatment of disease. It is a subject so eminently practical, as to arrest the attention of the most superficial observer.

There are certain teachings, recently enunciated, by distinguished practitioners, which are, in the judgment of the writer, so mischievous in their tendencies and results, as to induce a respectful examination of their justice and tenability.

Niemeyer, in his admirable work on pulmonary phthisis, has been among the first to give a distinct form to these teachings, and, in his recommendations relative to the diet prescribed, to make a practical application of them.

According to this distinguished writer, and in accordance with the views of many who agree with him in both theory and practice, it is affirmed, that inasmuch as

the use of an albuminoid diet increases, conspicuously, the amount of urea daily discharged, and inasmuch, also, as urea is chiefly the result and index of tissue waste, such diet is to be reprobated and generally avoided, in the treatment of disease. This, briefly expressed, is the meaning of teachings which if elaborated in detail would require more space and time, than can at present be afforded.

As a rule, common sense should be conspicuously and uniformly manifested in the teachings and practice of physicians. Just in proportion as this is done will medicine be more satisfactory in its history and more welcome to those who are its representatives.

It is not in accordance with common sense, that a diet used at the bedside, for many centuries, should be wrong in its adoption and injurious in its results. This is the first objection that may reasonably be made to the proscription of an albuminoid diet in the treatment of phthisis and many other diseases.

What, however, is the conviction created by an examination of this subject, according to all the means which modern science places at our command? This examination will be as concise and as brief as practicable.

All food is subdivided into two great classes: nitrogenized and non-nitrogenized substances. The first, as a rule, so varies in its elementary proportions, that the same article is not, in its chemical constituents, fixed or uniform. The last, with a few exceptions, is the reverse of this.

If there is one truth which experimental physiology has determined it is, that no proximate principle in these two great classes of diet is essentially and absolutely efficient food. If exclusively used, it is not competent to sustain life. An animal fed exclusively on starch, or sugar, or fat, will die; the result is the same, if it be fed

on albumen, or gelatine or casine, the so-called proteine compounds. Experimental physiology teaches that a scientifically arranged diet must be mixed in its character.

Clinical teaching, to which we now look with so much of hope and expectation, seeks, through some of its best exponents, to destroy these fixed and rational convictions, and essays to demonstrate that an albuminoid diet, as increasing tissue waste, is comparatively destructive in its results. This assumed effect is based on the fact, that, such diet increases the daily discharge of urea, and that urea is, in the main, due to diet and tissue metamorphosis. These claims, with trifling exceptions, are true, and without tediously analyzing the premises, it is safe to admit that an albuminoid diet does increase the discharge of urea, and that tissue waste is one of the chief factors in the production of urea. Does this, however, make up a tenable argument against the use of an albuminoid diet in disease? Many of our best authorities claim that, during the use of such a diet, urea is produced by a direct transformation of the elements of albuminoid food, Others contend that this direct transformation does not occur, but that the increased presence of the elements of urea in the blood (resulting from an albuminoid diet), causes necessarily an increased tissue metamorphosis, or that there is created a destructive assimilation, during which there is an accelerated tissue waste *and tissue repair*.

These two views constitute the entire field of controversy in regard to the comparative increase or decrease in the amount of urea daily eliminated. Of course all of the incidental causes, such as exercise, copious water-drinking, meteorological conditions, greater or less amount of muscular development, renal disease, febrile and inflammatory conditions (Bright's disease excepted), which increase, as a rule, the amount of urea daily excreted, are discarded in the argument; they can not properly or rationally be included.

The question may then be thus limited: cæteris paribus, does an albuminoid diet create a destructive and ultimate waste of tissue?

If such diet is directly transformed into urea, of course there is no morbid or injurious result indicated, by the increased quantity of urea manifested.

If such diet causes destructive assimilation, during which there is rapid tissue waste *and also rapid tissue repair*, there is also no morbid or injurious result indicated, when under such circumstances an increased elimination of urea is apparent.

As these two questions cover the whole ground of controversy, and as in the replies to them there is no evidence afforded of ultimate tissue destruction, on what possible grounds can it be claimed that an albuminoid diet in wasting diseases is ill-advised and objectionable? The advocates of this novel and untenable teaching must bring other arguments, before the physician can rationally abandon his judicious regimen of eggs, animal broths, etc., in the management of such diseases. A strange anomaly with these teachers is, that they use milk largely "on account of the cream," forgetting that in milk there are more of the albuminoid than of the non-albuminoid elements.

In thus defending the well established use of an albuminoid diet in diseases, it is of course fully admitted that the use of non-nitrogenized food is also eminently proper, under conditions so well known, as to render any detailed allusion to them unnecessary.

It seems to the writer, that the chemical, physiological and clinical facts presented are sufficient to show, that in the avoidance of an albuminoid diet, under the conditions mentioned, the physician would be guilty of a serious and mischievous error.

In examining the transactions of the North Carolina Medical Society, the oration of the anniversary editor, Dr. W. A. B. Norcom, of Edenton, N. C., attracts deserved attention. This paper shows that its author is well informed in regard to the past and current history of his profession; that he possesses that enthusiasm born of a love for his art and made attractive by a true devotion to its improvement and cultivation. The writer exposes many of the common errors manifested in the practice of those who halted ten years ago in their professional march, and are still slumbering heavily by the wayside. It is a paper in all respects efficient in its spirit and its teachings and is highly creditable to its author.

The farewell address of Dr. S. S. Satchwell, the President of the Society, is most excellent and will surely accomplish great good.

The first volume of the second American and fifth English edition of Aitken's Practice of Medicine, has been received. Nothing less than an elaborate review can do justice to this great work. At present it is well to say, that very large additions have been made by the English author and American editor. These additions are in regard to those many subjects which, during the few past years, have attracted the attention of the profession. The work is admirable in every respect. It is unsurpassed by any volume in the library, for accuracy, conciseness, comprehensiveness and graphic delineation; deserving well to be termed a true mirror of modern medicine.

Prof. Stevens's Address.—The address of Professor E. B. Stevens on retiring from the Presidential chair of the Ohio State Medical Society has been received. This paper is written in chaste and acceptable language; its diction is excellent and its imagery highly creditable. The practical and the beautiful are most judiciously

blended, and, on completing the reading of the address, one is well pleased and fully rewarded.

Pure Concentrated Medicines.—The editor of this journal has received a letter from a well known physician of New York city, in which the request is made that the attention of the profession should be called to the concentrated medicines prepared by B. Keith & Co., 41 Liberty street, New York. He writes as follows: "I have employed a number of them and have found them very good. I can speak from experience in reference to the following: gelsemin, hamamelin, hydrastin, stillingin, etc. You will find the hydrastin one of the very best remedies in gonnorrhœa, but especially in gleet. I have cured cases of one year's standing in two and three weeks. I make a decoction of ʒj hydrastin to oj water, allowing it to stand during the night and then decanting, leaving the sediment. Use this as an injection three times a day, etc. I have also used a number of the mixtures prepared by this house with much satisfaction." The editor can add that from his knowledge of this firm all transactions with it will afford entire satisfaction.

A distinguished physician of Richmond, Va., has often spoken to the editor of his great confidence and success in the use of hydrastin in obstinate cases of gonnorrhœa.

Professors Bartholow and Blackman have been required, by the Faculty of which they are members, to terminate their controversy, Prof. Bartholow being allowed a short rejoinder. It would appear, to an impartial judge, that though indiscreet and not sufficiently explicit, he is not guilty of the serious misdemeanor, so severely charged against him, by his colleague.

In examining the Transactions of the Indiana State Medical Society, for 1868, it is observed, that the retiring President, in his address, refers to the want of a medical Journal in the State mentioned. The President, Dr. J. S. Bobbs, has thus inexcusably ignored the existence of the Western Journal of Medicine, published at Indianapolis by Prof. Theophilus Parvin. This work is edited with uniform ability and should be a source of pride to the physicians of Indiana. Dr. Parvin well deserves support and the members of the Society mentioned should, in justice to him and themselves, discourage all attempts at establishing another journal.

New Journals.—The first number of the Monthly Medical Re-Print has been received. The design of the publishers is good, but the execution of the work is bad. The field from which selections are to be made for this new journal is large, and the success of the work will chiefly depend upon the judgment displayed in this connection. The publisher has the best wishes of the writer for his success.

The California Medical Gazette, a new journal, has just been issued. It presents an excellent appearance. The publishers have discharged their duty handsomely and the editor (whose name is not announced) has displayed excellent judgment in the preparation of the work.

Messrs. Bell & Co.—The printing and general management of this Journal are in the hands of Messrs. Bell & Co., of the Louisville Journal Job Department, Green street, between Third and Fourth. This firm has, under many difficulties, issued the Journal promptly and carefully, and are prepared to execute every description of Book and Job work, with care and economy. All wishing such work done will find it to their interest to give this prompt and liberal firm a fair trial.

Messrs. Bradley & Gilbert.—The presswork and binding of this Journal are executed by this firm. Their work has been done promptly, liberally and satisfactorily. These gentlemen should receive a generous support, for they are, in every respect, worthy of it. Their publishing house, where all kinds of work is well executed, is opposite the Louisville Post Office.

Errata.—On page 447 of last Journal, for "iodido ef zinc" read iodide of zinc. On page 464 of same number, for "delibrately" read deliberately.

NOTICES.

Where subscribers reside in cities, they will oblige the Editor of this Journal by forwarding their local address. Without such information, the Journals very commonly lie neglected or undelivered in the different Postoffices.

Mr. W. P. Holloway, of Louisville, Ky., is the General Business Agent of this Journal, and, as such, is authorized to attend to all business connected with the work.

SINCE the increase in the size of this Journal, the commutation, allowed to clubs, and to those subscribing through other Journals, is discontinued. Commutations, at present existing, will be continued for one year, from the date, on which they respectively commenced.

NOTICE.—Physicians who are members of Medical Associations of Societies are respectfully requested to send copies of all interesting reports or abstracts of instructive debates, etc., for publication in this Journal.

SPECIAL NOTICE.—It often happens to the busy Practitioner, that while he is unable to make a careful review of the history and pathology of any disease which has been presented to him in an important or unusual form, he can easily spare the time necessary for communicating by letter all of the interesting facts, in connection with one or more of his cases. Such papers are requested.

CORRESPONDENTS will save themselves much annoyance and the Editor much regret by preparing their manuscript carefully; writing with legibility, using but one side of the paper, and dividing the text into paragraphs.

BOOKS AND JOURNALS RECEIVED.

Constipated Bowels; the varied causes and the different means of Cure. By S. B. Birch, M.D., member of the Royal College of Physicians, London, etc. From the third London edition. Philadelphia, 1868, Lindsay & Blackiston. From the publisher.

The Jewett and Russell Prize Essays, of the Connecticut Medical Society. By Robert Bartholow, A.M., M.D., Prof. Materia Medica and Therapeutics in the Medical College of Ohio, etc.

Handbook of Vaccination. By Ed. C. Seaton, M.D., Medical Inspector to the Privy Council. Philadelphia: J. B. Lippencott & Co., 1868. From the publishers.

Recherches Expérimentals Sur Une Nonvelle Fenction Du Foie Consistent dans la Séparation de la Cholestérine du Sang Et Son Eliminations sous forme de Stercorine. (Séroline de Bondet.) Par Austin Flint, Fils Docteur En Medicine. Paris: Germer Baillière, Libraire editeur. From Appleton & Co., New York, 1868.

Proceedings of the Convention for the organization of the Nebraska State Medical Society, held in Omaha, Nebraska, June 24, 1868.

On the Progressive Locomotor Ataxia; its history, symptomatalogy, pathology and treatment. By Robert Bartholow, A.M., M.D. Cincinnati: 1868. Compliments of the author.

Transactions of the Eighteenth Anniversary Meeting of the Illinois State Medical Society, held in Quincy, May 19 and 20, 1868.

Transactions of the Fifteenth Annual Meeting of the Medical Society of the State of North Carolina, held at Warrenton, N. C., May 20, 1868.

Transactions of the Twenty-Third Annual Meeting of the Ohio State Medical Society, held at Delaware, June 2, 3 and 4, 1868.

Atlas of Venereal Diseases. By A. Cullerier, Surgeon to the Hopital du Midi, member of the Surgical Society of Paris, Chévalier of the Legion D'honneur, etc. Translated from the French, with notes and additions. By Freeman J. Bumstead, M. D., Professor of Venereal Diseases in the Colleges of Physicians and Surgeons, New York, etc.; with 150 colored figures on 26 plates. Parts III and IV. Philadelphia: Henry C. Lea & Co. 1868. From the publishers, through Mr. R. H. Singleton, successor to Cromie & Sherrill, Louisville, Ky.

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ORIGINAL COMMUNICATIONS.

"Qui Docet Discit."

ART. I.—KEYS TO THE ARTICULATIONS OF THE UPPER EXTREMITIES. Being the substance of a Lecture delivered at Bellevue Medical College, September 29, 1868. By Dr. F. H. HAMILTON, Professor of Practice of Surgery, etc.

This is a point in surgical anatomy which has generally been overlooked in written treatises and by teachers of anatomy and surgery. It has relation to amputations, resections and the diagnosis of dislocations and fractures. A careful study of each joint, with experiments upon the cadaver, as well as upon the living subject, have led me to decide upon certain ligaments, or muscular and tendinous attachments, as furnishing simple and easily recognized "keys," by the cutting of which the joints may be readily unlocked, that is, laid opon to view, and in some means separated, so that the disarticulation may be effected without any false cuts or hesitation.

1. *Phalangeal Articulation. Key: The lateral ligaments.* The phalangeal articulations are ginglimoid, or hinge-

like, admitting of no motion but flexion and extension. Each articulation is supported by a capsule, two lateral ligaments and the flexor and extensor tendons. When the last phalanx is flexed to a right angle upon the second phalanx, the distal end of the second phalanx is completely uncovered, the proximal end of the last phalanx moving off from the second. To open into the joint, therefore, with the fingers flexed, the knife must be applied to the dorsal surface, about one-fourth of an inch beyond the most projecting point of the knuckle. This will sever the extensor tendon and open the capsule, bringing the joint-surface completely into view, but it will not "unlock" the joint. Indeed, there will be no greater freedom of motion than existed before the incision was made. If now the operator will proceed to cut one, or both of the *lateral* ligaments, the joint-surfaces will at once separate freely, and the knife can easily complete the amputation.

The same rules apply to all of the phalangeal articulations, whether of the hand or foot. It must be especially remembered that the tendons, although they hug the joints closely, have nothing to do with keeping the joint surfaces in contact. They are capable of being elongated by extension, and if the capsule and lateral ligaments are cut, they offer no impediment to the separation of the articular surface. The lateral ligaments are the only keys properly speaking.

2. *Meta-carpo-phalangeal Articulations of the Thumb, of the Great and Ring Fingers. Keys: lateral ligaments.*— The meta-carpo-phalanged articulation of the thumb and of the fingers are also called ginglimoid, but they approach nearly the character of enarthrodial, admitting of considerable lateral motion. Their lateral ligaments are, for this reason, easily exposed to the knife, by throwing the phalanx to the opposite side. In amputating at

the metacarpo-phalangeal articulation of the thumb, or of the great, or ring finger, it is immaterial which of the lateral ligaments be chosen as the key.

It must not be forgotten that, in order to enter the joint from the dorsal surface, when the phalanx is flexed to a right angle, the knife must be placed, in the adult, about four lines below the most salient point of the convexity of the knuckle, that is, a little farther toward the distal end of the finger, than in the case of the phalangeal articulations.

3. *Meta-carpo-phalangeal Articulation of the Index Finger. Key: Internal (ulnar side) lateral ligament.*—I have chosen the internal lateral ligament in the case of this joint, for the reason that when it is divided, the finger can be thrown freely over to the radial or outer side, and the operation can be completed with a little more expedition. If the external lateral ligament is divided first, the adjoining finger will prevent, in some measure, a similar free deflection to the opposite side.

4. *Meta-carpo-phalangeal Articulation of the Little Finger. Key: External (radial side) lateral ligament.*—This is chosen for the same reason just given in the case of the preceding finger.

5. *Carpo-metacarpal Articulation of the Thumb. Key: Internal lateral ligament (ulnar side).*—This will be more easily found and cut than the external; and, provided the flaps are already made and the whole length of the bone exposed, the thumb can then be forcibly thrown to the radial side and the joint completely opened. By this method, also, the operator is in less danger of wounding the radial artery, where it dips down between the first and second metacarpal bones to form the deep palmar arch.

To one who has not made the experiment upon the cadaver, or living body, the opposite (external) lateral lig-

ament would seem to be the proper key, but actual experiment will demonstrate that it is not.

6. *Carpo-metacarpal Articulation of the Little Finger. Key: External lateral ligament (radial side).*—The same arguments apply in this case as in the case of the preceding articulation.

7. *Radio-carpal Articulation (wrist joint). Key: External lateral ligament (radial side).*—Attempts to approach this articulation from either the palmar or dorsal surface, are often, with the experienced surgeon, attended with embarrassments. On the palmar surface he is in danger of falling between the two rows of carpal bones or of getting above the expanded margin ot the lower end of the radius. On the dorsal surface he is equally in danger of falling between the two rows of carpal bones. Approaching from the inner or ulnar side, it is quite possible for him to insert his knife below the pisiform or unciform bones. From the outer, or radial side, all these dangers are shunned. Feeling for the lower end of the outer styloid process and dividing the external lateral ligament, the articulation between the radius and scaphoid is easily exposed and the disarticulation effected without difficulty.

8. *Elbow Joint. Key: External lateral ligament.*—This is a complex, but purely ginglimoid articulation, admitting of no lateral motion. The joint is supported by its capsule, by its anterior and posterior ligaments, both of which latter are thin and loose, only limiting the joint in its extreme conditions of extension and flexion, and by the lateral ligaments, both of which are stout and strong and hold the joint-surfaces compactly together. The division of either one of these ligaments would unlock the articulation, but when the joint is still covered with integument and muscle, the exact position of the internal lateral ligament is with difficulty defined. There is usu-

ally, however, no difficulty in finding the external lateral ligament, which passes from the external condyle of the humerus to the orbicular ligament, inclosing the head of the radius. The following rule is to be observed in searching for this ligament.

The forearm of the patient is flexed to a right angle with the humerus, so as to displace the mass of muscle which conceals the head of the radius partly, when the forearm is extended. The right hand of the surgeon grasps the right hand or wrist of the patient, while the left seizes the elbow in such a manner as to place the thumb upon the external condyle of the humerus. The thumb is then allowed to slide off from the condyle toward the hand, until only the upper margin of the thumb touches the condyle and its lower margin will be felt resting upon a slight elevation, which is the head of the radius. The space between these two points is, in adults, about half an inch. Pressing down with some firmness upon the head of the radius, while with the right hand the radius is pronated and supinated, its head will be felt rotating under the thumb. The head of the radius rotates upon its own axis and, to recognize its motion, it is generally necessary to move it slowly and observe it attentively. The patient must also be instructed not to aid in the motion of rotation, otherwise the contraction of the muscles will obscure the sensation. With these precautions, the surgeon will seldom fail to recognize the head of the radius, and he will even be able to define accurately the situation of its upper margin and to put a pin into the joint, if he choose to do so, with almost unerring certainty. This is the precise point where, by a transverse incision, he will cut the external lateral ligament and freely expose the joint.

In case the operator were intending to make an amputation with a single anterior flap, he may now, having

entered the articulation at the head of the radius, carry his amputating knife around across the posterior aspect of the arm, to the opposite or ulnar side, cutting through the integuments down to the bone. Then, the assistant having completely and somewhat forcibly extended the forearm upon the arm, the surgeon may rapidly make the anterior flap, raising it up well to the articulation, and finally placing the edge of the knife vertically upon the front of the joint, so that its extremity, near the point, rests in the open articulation between the radius and humerus; with one single sweep he will sever the remaining attachments of the biceps, the brachialis anticus, the anterior ligaments, the capsule and the internal ligaments, leaving nothing to be divided but the olecranon process, the section of which will be completed by the saw.

It is important in this procedure to extend the arm before the section of the brachialis anticus, etc., is made, otherwise the knife will strike against the coronoid process of the ulna.

Nothing can exceed the facility and rapidity with which disarticulation at the elbow joint can be made by this method.

There is another important purpose to which a precise knowledge of the situation of the head of the radius and of its articulation may be applied, namely, to the diagnosis of dislocations, fractures, etc., about the joint.

If the head of the radius alone is dislocated in any direction, a careful examination after the method I have described, will decide the fact.

The ulna is so seldom dislocated alone at this extremity, that it may almost always be safely assumed that this is not the character of the accident. If, therefore, the head of the radius is found in place we can pretty safely say that the ulna is not dislocated; and, of course, that it is not that very common accident, a dislocation of the

radius and ulna back, nor indeed in any other direction. It is thus that the position of the head of this bone, in itself alone, not unfrequently will decide all the questions relating to dislocations about the joint. There is no other single point about the articulation which can ever be made to convey the same amount of information, and the surgeon ought to familiarize himself with its position and by repeated examinations upon different persons. It is one of the secret arts of expertness in the diagnosis of elbow-joint injuries.

9. *Shoulder Joint. Key: Coraco-humeral ligament, with the muscles attached to the greater and lesser tuberosities.*—In amputation at the shoulder joint, the method which I have found to be the most easily executed and most economical in the saving of blood, is as follows:

First step of the process: An assistant seizes the forearm at the elbow and wrist, and in order that he may control its motion more perfectly, flexes it to a right angle with the humerus. He then raises the humerus to a right angle with the body. The surgeon, if it be the right arm, standing on the left side of the body and arm, with his face to the patient's head, grasps with his left hand the muscular eminence formed by the deltoid muscle, and with his right hand holding a large common bistoury, forms an oval, external flap, the apex of which reaches to within two or three inches of the insertion of the deltoid, and the base of which extends from near the coracoid process in front to a corresponding point below the acromion process behind. This flap is now rapidly dissected up until the outer extremity of the acromion process is fully exposed.

Second step of the process: The assistant is directed to lower the arm nearly or quite parallel to the body, so as to expose more fully the head of the humerus, and especially its capsule and coraco-humeral ligament. The knife,

placed with its flat surface against the acromion process and its edge directed toward the head of the humerus, divides the coraco-humeral ligament, the upper portion of the capsule and, perhaps, the long head of the biceps. These structures constitute the first key to the joint. This section does little more, however, than to open it fairly to view.

Third step of the process: The assistant, still holding the forearm at a right angle with the arm, rotates the humerus forcibly inward, while the surgeon, with one sweep of the knife, divides the supra-spinatus, the infra-spinatus and the teres minor. These muscles constitute the second and most important key to the articulation, and it is quite possible now to open the joint sufficiently to pass a knife between the head of the humerus and the glenoid cavity of the scapula. They are all inserted into the greater tuberosity, and inasmuch as they approach their points of insertion from above, from behind and from below, the knife must be carried around the tuberosity, with a firm hand and in such a direction that the lower half of the incision shall pass down behind the tuberosity parallel to the axis of the humerus; indeed, the lower portion of the teres minor, having a slight muscular insertion into the humerus below the tuberosity, it is well to extend this incision a little below the tuberosity and to incline it here slightly forward.

Fourth step of the process: The assistant next rotates the humerus forcibly outwards, exposing the lesser tuberosity, and the surgeon, with a similar sweep around this tuberosity, divides the subscapularis. The subscapularis is the third and last key.

Fifth step of the process: The joint now separates widely and the surgeon, changing his bistoury for a seven or eight inch amputating knife passes through the joint, dividing the remainder of the capsule and the long head of the

triceps. Turning now the edge of the knife toward the humerus, the incision is prolonged downward, hugging closely the posterior surface of the bone to the extent of three or four inches.

Sixth step of the process: A second assistant, following the incision made beneath the head of the bone, passes his two thumbs from opposite sides into the wound and seizes the axillary artery between his thumbs and fingers, holding it firmly, while the surgeon completes the section of the axillary tissues.

The amputating knife employed in this last step of the operation ought to have a straight, dull back. A double edged knife endangers the hands of the assistant, and possesses no advantages.

It will be noticed that the second and third keys to this articulation are not, as is uniformly the case in other joints, ligaments, but muscles or tendons. That is to say, the muscles, rather than the ligaments, hold the joint ends of the bones in contact.

This fact admits of easy explanation. The shoulder joint has a greater latitude of motion than any other joint in the body. The capsule is, therefore, very loose, so that when all others of the soft parts are cut, it allows the bones to separate more than one inch. Only one ligament connects the scapula to the humerus, namely, the coraco-humeral, which passing obliquely across the joint, from the coracoid process to the greater tuberosity, can only imperfectly limit its motions and has no effect in holding the articular surfaces in contact. The muscles and tendons which embrace the joint, however, have such attachments and anatomical characters, as to reinforce the capsule; and they do, in fact, take the place of ligaments. The long heads of the biceps and of the triceps, inserted respectively into the upper and lower margins of the glenoid cavity, have considerable effect in this regard;

but, chiefly, the head of the humerus is held in place by the three short and strong muscles which I have named, coming from the back of the scapula, and which are inserted into the greater tuberosity. The power to accomplish this and to reinforce the capsule is greatly increased by their attachment to the capsule itself. The truth of this assertion is readily verified by a division of their tendons near the point of their attachment. It will be plainly seen that they constitute the second and most important key to the articulation. The subscapularis, coming from the opposite side of the scapula and inserted into the lower tuberosity, is also short, strong and is attached to the capsule itself, so that the joint cannot be completely opened until its tendon also is divided. This, therefore, constitutes the third and, in point of importance, the second key to the joint.

I have elsewhere, and especially in my military surgery, preferred Larrey's amputation at the shoulder joint; but later experience has taught me that the method I have now deccribed is, in several respects, to be preferred.

Summary of the Keys to the articulations of the upper extremities.

1. Keys to the phalanges of the fingers. Either of the lateral ligaments.

2. Keys to the meta-carpo-phalangeal articulation of the thumb, great and ring fingers. Either of the lateral ligaments.

3. Key to the meta-carpo-phalangeal articulation of the index finger. Internal lateral ligament.

4. Key to the meta-carpo-phalangeal articulation of the little finger. External lateral ligament.

5. Key to the carpo-meta-carpal articulation of the thumb. Internal lateral ligament.

6. Key to the carpo-meta-carpal articulation of the little finger. External lateral ligament.

7. Key to the radio-carpal articulation (wrist joint). External lateral ligament.

8. Key to the humero-ulnar articulation (elbow joint). External lateral ligament.

9. Keys to the scapulo-humeral articulation (shoulder joint). First, coraco-humeral ligament. Second, supra and infra-spinatus and teres minor, near their insertion into the greater tuberosity. Third, subscapularis, near its insertion into the lesser tuberosity.

ART. II.—AN ACIDULATED SOLUTION OF PEPSINE AS A SOLVENT FOR FALSE MEMBRANE IN DIPHTHERIA. By WM. H. DOUGHTY, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Georgia, Augusta, Ga.

The clinical history of diphtheria clearly establishes the existence of a *constitutional* and a *local* element in the disease, the latter furnishing the diagnostic criterion of the diphtheritic state of the system. Although not always a sufficient test of the degree of constitutional contamination, yet the characteristic exudation is known to involve in its seat and quantity one of the chief sources of danger to the case.

Death may occur from apnœa or from asthenia; and while the latter mode determines, perhaps, the majority, yet the terrible liability to death by suffocation is that which invests the disease with its most painful apprehensions and associations.

In its therapeutical management, just in proportion as we have learned to interpret the throat affection as the local expression of a constitutional disorder, have we also abandoned a hopeful reliance upon caustic applications, either to modify the inflammatory process, to limit or permit further exudation, or to destroy the adventitious deposit. The resort to escharotics, nowadays, although

countenanced, is rather in conformity to conventional usage, than with the assured expectation of accomplishing either of the above purposes. Although some may still cling to their continued use, yet, there are those, who, supporting their patients by tonics and the usual means, confine their efforts to the mechanical removal of the exudation, if possible, and to mild local applications, antiseptic and disinfectant, waiting and watching, in the hope, that by accidental or spontaneous separation after long retention, the fear of suffocation may be relieved.

The hope of an effectual solvent has well nigh vanished with the demonstrated inutility of caustic measures, weak and strong, and in the fruitlessness of all endeavors heretofore made. Physicians have, in reality, become painfully passive observers of the progressive suffocation of their patients. Inhalations of warm vapor and atomized fluids have recently been employed, particularly in true croup where analogous local conditions exist, and with good results in some cases, although nothing like a satisfactory solvent for the exudation has yet been reported.

We venture to hope that, in the substance, *pepsine*, which stands at the head of this article, this has at last been discovered, and earnestly invite attention to a consideration of its adaptation to this end, as an agent rationally, chemically and physiologically appropriate. We have had only a limited opportunity for testing it, (in the single case detailed below), but we call upon the numerous intelligent observers in our large cities, North, South and West, who are always ready to appreciate suggestions of hopeful value, carefully to weigh its merits and report the results of its more extensive trial.

Animal food requires for its digestion and solution in the stomach a special solvent which is furnished in the gastric juice. The physiological chemist supplies us with

the analysis of the fluid and the conditions under which the ingested material must be placed in order to prompt digestion. An organic solvent—pepsine— a free acid, (it matters not, for our present purpose, whether it be muriatic, lactic or phosphoric acid, or all of them), and a certain temperature (about or a little above 100° F.) are the essential conditions to the process of stomach-digestion. The pepsine, without the acid, or the latter without the former, and with other than this requisite temperature, are under all conditions alike unable to effect the solution. These are the only known conditions under which anything like chemical solution, digestive in character, can be produced in organized animal structures.

If accordingly you hand to the chemist a piece of flesh and ask a solvent for it, he will prepare an artificial gastric juice and supply the other condition as given above.

The pertinent question is then addressed to us as physicians, *what shall we do to dissolve the albuminoid-fibrous exudation, that we call false membrane?* It is organized tissue, and furnishes no exception, as regards its solution, to the chemical laws and physical conditions which nature has indicated as essential to that solution. Neither acids, nor alkalies, nor oils, alone or combined, are sufficient—that provided and employed by nature is the only proper one. In answer to the above question, we must extemporize this solvent, making its application thorough, i possible.

If you could transfer the exudation from the mouth to the stomach, it would be disposed of, provided secretion occurred. Indeed, it will be done, if subjected to it out of the body (as our experiment clearly shows). Why not then apply this artificial gastric juice, compounded for the purpose, and dissolve it there also? Is there anything unreasonable or impracticable in it? Does not the sucessary condition exist here—a certain temperature,

slightly increased by the diseased action? And may not constant application by mopping, bathing and atomization be made to the upper, outer and more accessible parts, perhaps, to the whole tract? We have tried it and know that a diligent nurse can keep the parts constantly wet with the solution thus used.

Numerous physiological experiments have proved incontestably the digestion of aliment subjected to artificial solvents of this kind. The pathological source and generation of this tissue does not alter the facts. Hence, whenever or wherever subjected to it, the one effect must be produced. In the details of the case subjoined, there is good reason to attribute the disappearance of the membrane and its failure to reform, together with the dissolution and rapid discharge of portions of it in localities no longer visible on account of swelling, etc., to the solvent action of the compounds; and, moreover, in the experiment for this solution, after separation, we have the demonstration of its capacity to dissolve it. Being in the mouth and throat, or, in the vial, for experimental purposes, can make no difference, provided, the proper physical conditions are supplied, *i. e.*, contact and the proper temperature.

Is there not hope in these reflections? If we can dissolve the membrane after its formation, may we not more surely arrest its concretion? Prevent its deposition? Keep the channels of deglutition and respiration as open as the removal of the adventitious structures would insure; and, as this involves one frequent mode of death, may we not, in the interest of humanity, hope to rescue our patients from impending suffocation? If true, however, and practicable, it can only serve a local purpose and prevent death by apnœa.

Again, if there be any foundation for the position held by some, that the blood-poisoning and constitutional con-

tamination are increased by the decomposition of the accumulated concretions in situ, do not the antiseptic properties of this organic solution strike us as favorable to the arrest of the one and to the prevention of the other, and, therefore, become a prophylatic against septicæmia, as likely to arise from this cause?

Another and a purely incidental advantage is that derived from the presence of more or less of the solution in the stomach, as an aid to digestion, should any of it be swallowed during the administration of food and medicine. Its constant application to the mouth and fauces almost insures its accidental presence in that organ and under the general depression and impaired nutritive conditions characteristic of the disease, this becomes an item of some importance; when the usefulness of a remedy is being considered, the more vigorous and thorough the digestive act, the greater the support derived from our supporting measures.

By reference to the case which has furnished us with the above suggestion, it will be observed that the first substance employed to dissolve and to prevent, if possible, the reformation of the membrane was *lime water*. Having recently seen reports of the efficacy of the warm vapor of lime water in the management of membranous croup, we ordered the use of the above, in this case, by constant inhalation (the vapor bath being unsuited) of the atomized vapor. The false membrane had just been removed from beneath the tongue, where it had formed continuous structure, having the indentations of the teeth; the temperature of the mouth was then over 100°F., (as afterwards tested.) It was faithfully kept up for twenty-four hours, or longer, at the end of which time, a denser membrane than before had formed, thus showing the uselessness of the lime as a chemical solvent for the exudation.

But, to render assurance doubly sure, on the previous day, we immersed a piece of the membrane in lime water, (officinal), and after forty-eight hours, it was not only not dissolved, but rather hardened and discolored by it. It is no objection to say that the atomized fluid and that in which the portion was macerated were not heated; in the former, the vapor would soon be raised to the temperature of the mouth, and, in the latter, it is well known that when lime water is heated it throws down a precipitate, because hot water requires less to saturate it than the cold and, consequently, is the weaker preparation.

Lime water is, moreover, objectionable as an atomized agent, because of the deposition of the carbonate of lime about the capillary points of the tubes, when exposed to the respired air. The carbonic acid expired causes its rapid deposition and necessitates either frequent cleansings or changes of the tubes.

With this experience we abandoned lime water as utterly worthless as a solvent. We have since examined carefully the last report of Dr. Ben. B. Wilson, upon the use of the warm vapor of lime in croup*, but fail to discover in the case there detailed the slightest *intrinsic* evidence of the value of the *lime*, with which the vapor of warm water was impregnated. The case was one undoubtedly of inflammatory croup (acute or catarrhal laryngitis), but, perhaps, without the membranous formation, as none was discharged before, during or after the warm inhalation. The respiration improved with the relief of the local inflammation and recovery ensued. But, we repeat, that there is no intrinsic evidence of the presence of the membrane or of its solution by the substance inhaled.

*June No. Richmond and Louisville Medical Journal, copied from the Reporter.

We make these comments solely in the interests of truth and correct observation. We are certainly indebted to Dr. W. for directing attention again to the value of inhalations, of whatever composition they may be, under these desperate circumstances. He has simply made, however, a more direct application of those measures which Prof. Sayre has long since advised, in a more general way, as almost essential to the successful management of bad cases of exudation croup. The latter employs a warm room, (kept at 90°F.), charged to saturation, it possible, with the vapor of boiling water or steam. Prof. Flint speaks of it as "the most efficient topical application," for the removal of the exudation, and remarks that his colleague, Prof. Sayre, "who has been remarkably successful in the management of this disease, attributes more importance to this than to any other remedial measure." (Page 228, Flint's practice.) The one generates the warm vapor in the room at large, the other, in a more circumscribed area, under the bedding, properly arranged.

In offering to the profession, the pepsine solution, as one of probable efficacy, we would remark that the suggestion is not based upon empirical experience, but upon its physiological adaptation to the end in view. The subject died upon whom it was tried, but death resulted from the constitutional depression and not until sufficient time had elapsed to prove the success of the local measure. So feeble was the individual, that when first seen, and before the diphtheritic nature of the attack was revealed, he required the most supporting measures, and died in spite of them, having taken food and medicine throughout.

In this section, genuine diphtheria is too rare to encourage the hope of the speedy determination of its real value by the reporter. We invite a careful experimenta-

tion with it; it may not be so well adapted to the treatment of true croup, where the larynx and trachea are the seats of deposit, because, not so accessible as with an exudation higher up. Possibly it may also require adaptation to particular or individual cases of diphtheria, but concerning this, let future experience determine.

We advise the following solution which may be kept at the ordinary temperature for months by physicians or apothecaries, without incurring the risk of decomposition: ℞. Pepsine, (Boudault's)* ℥j; muriatic acid, dilute, gtts. x; water Q. S. to make ℥iij *m.* Filter (to separate the insoluble starch with which the pepsine is incorporated) and set aside for use. If desirable, the temperature might be raised at the time of its use, by setting the vial in hot water and closely enveloping it with the hand during atomization.

Report of the case treated.—Mr. Charles C——, a man of small stature, weighing probably not more than 100 pounds, about 25 years of age, having an anæmic appearance and of feeble general health, which has been rendered more so by recurring intermittent fever, to which he has been subject the past six months and of sedentary habits, called at the office September 21, with a request to examine his throat; its condition, as follows: an inflammatory blush, with some swelling about the fauces. It was cauterized with a strong solution of nitrate of silver and a gargle of chlorate of potash ordered; he was instructed to return on the 23d, if not relieved.

September 25. Patient returned, complaining of pain

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*Boudault's preparation of pepsine is made from the stomach of the calf; perhaps that of Bullock's made from pig's stomach (pepsina porci) would be the best. If substituted for the above it will require not more than 15 grains, as it is said to be four or five times stronger.

Again, lactic or phosphoric acid might be preferred by some; if so, only a slight excess of the free acid is needed, and either of the several acids (muriatic, lactic and phosphoric) might be used. Perhaps the lactic is the best, as recent investigations indicate that, as probably the free acid found in the stomach during digestion.

in deglution and of an induration behind the angle of the jaw on the right side. Upon examination, the right tonsil and surrounding parts were found intensely inflamed, the left side being unaffected. It was cauterized again, painted externally with tinct. iodine diluted, and iodine gargle substituted for the chlor. potash.

September 27th. Was summoned to see him at his residence; found him in bed, with the right side of the neck and throat much inflamed and swollen; decided fever of an intermittent form; pulse frequent and weak.

Within, the inflammation is still confined, chiefly to the right tonsil and contiguous parts; the cervical and right sub-maxillary glands are also enlarged and painful.

Treatment—25 grains quinine during the intermission of fever and a supporting diet; also, cauterized the throat; continued the iodine externally, painting the surface twice daily, and returned to the chlor. potash as a gargle, ordering some of it to be swallowed occasionally.

September 28th, at 10 A. M.—Is free from fever, but the external inflammation is extending beneath the chin and towards the left side, so that the mouth cannot be opened more than an inch; palate and fauces, with a good light, are seen to be more swollen and shining red, but free from exudation; under the tongue, however, the inflamed structures are coated with a thick, continuous exudation, bearing upon it the indentation of the teeth; it is not readily detached, but, upon removal with the forceps, leaves an unbroken inflamed surface; all of these parts were freely cauterized, and inhalations of atomized lime water ordered to be kept up continuously. At 11 o'clock an enema of 12 grains quinine and 10 drops laudanum; also 15 drops mur. tr. iron every four hours, with beef tea and milk punch freely.

September 29th, 10 A. M.—Swelling about the throat increased; membrane reformed under the tongue as thick as that removed yesterday; pulse feeble; cannot see the throat, although he swallows pretty well; he coughs also to-day, not croupal, however, but with some embarrassment to respiration and thickness of speech; membrane again removed and treatment continued, except cauterization.

September 29th, at 4½ P. M.—Afternoon visit finds the patient cold, with a very feeble pulse; livid countenance and neck greatly swollen from ear to ear; respiration embarassed by collections in the throat, although not

stridulous in character; first endeavored to bring about a reaction by the use of sinapisms and brandy; reaction took place, and about the mouth the following notes were made: Under the tongue the membrane is plainly reforming; cannot see the fauces or base of tongue. Then abandoned the lime water and ordered the constant application, by the means of a hair pencil and atomization, of the pepsine solution, with instructions to keep it up all night without cessation. General treatment also continued.

At 9 P. M.—Saw him again, with Prof. Dugas, in consultation; his breathing was rather better; no exudation apparent; has discharged freely from the throat a considerable quantity of broken-down, pulply, opaque matter, mixed with mucus, (as reported by the nurse); patient says he feels better, but states that his lips are a little sore from the constant application of the acid in the solution. The general appearance of the mouth, as far as visible, is cleaner and better. Treatment: reduced the proportion of acid in the mixture from 40 to 10 drops; previous instructions as to its use, to be faithfully complied with.

September 30th, 10 A. M. He is very feeble, fever having remitted, but says he feels better; no appearance of the exudation; mouth is clean; continued to discharge the broken-down opaque masses, before alluded to, through the night, and says he must have suffocated but for the solution employed. Breathing is comparatively good and cough less. Treatment continued.

4½ P. M. Still complains of weakness; pulse weak, but skin is warm; has taken nourishment freely; says his throat feels better; no exudation visible; mucous membrane looks better. During the visit he coughed up lumpy masses of an opaque substance, somewhat resembling partially dissolved membranous material. Temperature of mouth under the tongue 103°F. General treatment same; the atomizer to be used fifteen minutes in every hour.

October 1st, 10 A. M. Died at 1 o'clock, A. M., from asthma; took nourishment and talked rather freely to the last.

Experiments for the solution of the False Membrane.

I. At 10 o'clock A. M., September 28th, deposited a

piece of the membrane in lime water, ℥ss; removed it in 48 hours unaffected, except in color (blackened).

II. At 11 A. M., September 29th, deposited pieces in the following: Spts. turpentine; it remained 24 hours, unaffected. Water acidulated with muriatic acid, 20 gtts. to ℥ss cold distilled water; remained 24 hours, unaffected.

Liquor potassæ, diluted with three parts of water. Remained 24 hours; was partly dissolved, becoming more or less flocculent.

III. September 30th, 11 A. M. Removed the pieces from the first three solutions, above given, and placed them in the pepsine solution, (the formula for which has already been given) and kept it at a temperature varying from 100° to 110°F. In five hours (at 4½ o'clock P. M.) they were entirely dissolved, and the solution, now before me, (October 8th), is still clear and free from all appearance of decomposition.

ART. III.—CONTRIBUTIONS TO PRACTICAL THERAPEUTICS. By JOHN P. METTAUER, M.D., LL.D., of Prince Edward C. H., Virginia.

Anti-periodics. In the treatment of intermittents, remittents and some other periodic diseases, a set of therapeutical agents demonstrated anti-periodics, from an early period, engaged the attention of the profession, and at the present time are almost exclusively relied on, in the management of those diseases. Although these valuable remedies have been so generally resorted to by practitioners of medicine, and in so many instances have been followed by favorable results, their modes of action, as well as adaptation to the wants of the diseased body are imperfectly understood; and the aim of the writer in this paper is to submit a few reflections and observations, in relation to these points, drawn from his own experience. It is not necessary, in the examination of the topics involved, to consider the obscure and purely speculative rationales of these remedies, in producing their remedial effects, now in vogue; and it matters not whether they

are supposed to operate through the vito-chemical reactions set up by them in the molecules of the organism, favorable to a return of healthy, normal, functional exercise of the vitalities, or whether they act as contra-irritants, or contra-stimulants, or as revellents, excitants, tonics and sedatives. The writer's object is merely to present some facts and observations touching the modes and periods of administering anti-periodics; together with considerations in regard to their applicability in certain cases or conditions of the constitution and the best means of facilitating their curative operation.

Anti-periodics seem to induce a peculiar vito-pathologico-physiological action in the economy, which tends to supplant the diseased or morbid, upon which intermittents, remittents and other periodic diseases depend. Or they may temporarily suspend the original morbid actions, by perverting them so far as to deprive them of the power of augmenting in intensity, and which, if not properly medicated, sooner or later, relapse into their original morbid condition. That these agents induce a peculiar action in the economy will not be denied; and it seems that, to prove remediate, it must be fully established during the intermissions of the diseases demanding their use.

There is no conclusive evidence that admitted anti-periodics ever produce curative results when administered during, or even a short time before the accession of a paroxysm of intermitting or remitting fever. In neuralgia they, occasionally, afford relief when administered during a paroxysm of pain; but such instances are so rare as to render it probable that they were accidental coincidences. To secure their curative effects, it does seem that they should be in full operation some time before the paroxysm begins and that their action be decided in every case. Such is the experience of the writer.

For a number of years the writer has employed anti-

periodics, guided by these views, and he is confident his success in treating intermittents greatly exceeds that following the methods generally in use. After such preliminary treatment as the case may require, he administers the anti-periodic in a commanding dose, seven or eight hours before the expected paroxysm; and to insure the early action of the remedy, especially quinine, upon the duodenum, liver and spleen, which he thinks are the organs, more particularly the duodenum, in which the remedial action begins, he has been in the constant practice of combining a mild cathartic agent with the anti-periodic to hasten the passage of the remedy from the stomach into the duodenum. By this means the anti-periodic is conveyed sooner into the duodenum than if administered without the cathartic, where it at once sets up the actions peculiar to it, in advance of the expected paroxysm and in time to prevent it.

This method of employing anti-periodics was suggested to the writer, some fifteen or twenty years since, by the report of a case of tertian intermittent he received from an eminent practitioner of Virginia. In this case, quinine was the anti-periodic employed and it was administered in the form of simple pill only a few hours before the expected paroxysm, in quite a herioc dose. The remedy failed to prevent the paroxysm, which was quite a severe one, but seemed to prove remediate with the next one, which failed to occur, and without repeating the anti-periodic. The medical gentleman who reported the case was at a loss to account for the non-appearance of the second paroxysm, so long after the anti-periodic was administered, and the writer explained it, by supposing that the remedy did not reach, or impress the duodenum until late the next day, by reason of the violent symptoms which accompanied the paroxysm it was given to ward off. Since the occurrence of this case, the writer has

constantly employed quinine as an anti-periodic in intermittents, from seven to ten hours before the expected paroxysm; and to insure its certain action as such upon the duodenum, he invariably combines some gentle cathartic agent with it, for the purpose of hastening its passage from the stomach into that organ. In a vast number of cases, this simple method has been successfully employed. Indeed, no other has been resorted to now more than fifteen years since its first trial, and with few, if any, failures.

The adoption of anti-periodics, when employed according to this method, requires care, as when others are used, so that the morbid impressibility and phlogosis coëxisting with the disease, shall harmonize, as far as attainable, with the powers of those agents. If acute inflammatory action complicates the periodic disease; or, if there should be morbid exaltation of the vital tone, it would not be profitable to employ them, until those conditions had been modified by appropriate preliminary treatment, as a general rule. In malignant intermittents, however, this rule cannot be always observed, as their tendency to fatal congestion is so menacing, as to demand the earliest possible arrest of their course, which can only be done by the prompt and energetic employment of anti-periodics, even if administered without rule. Anti-periodics rarely produce their remediate effects if acute inflammation coëxists with an intermittent, especially such as possess exciting qualities; and, when the vital tone is unduly exalted or depressed, unless properly adapted, they also fail. The undue phlogosis, if present, must be corrected by appropriate measures, before the anti-periodic is employed, especially such as may possess exciting properties; and, when depression or exaltation of the vital tonicity is the coëxisting complication, invigorating or depressing means will be demanded. If the ac-

tions are unduly exalted, or the vital energies greatly depressed, the reparative powers rarely respond properly in remedial action, especially when the therapeutic agent makes a direct impression.

It is not positively established in what manner anti-periodics impress the economy as therapeutical agents; but it is exceedingly probable that they act as nervine incitants, superinducing in the nervous system generally, but more especially those portions of it spent upon the organs chiefly involved as the local affections of intermittents; and, according to the doctrine of "Nervosism," they may correct the morbid variations in the nerve force in a manner favorable to a return of healthy action.

To insure the complete anti-periodic protection, the remedy should be repeated several times after the paroxysms have ceased to recur; and a single commanding dose of quinine compounded—and timed as already stated—will be sufficient to meet each paroxysm in a large majority of instances. If the case has been severe, the quinine might be repeated oftener; perhaps as frequently as three or four times, and, when discontinued, some bitter infusion, Huxham's elegant tincture of bark, or the bark in substance, should be used and kept up for several weeks.

In some instances, quinine puts a temporary stop to the paroxysms of intermittents, the disease recurring from slight exposure to the vicissitudes of temperature, or from an imprudent meal; and such examples now and then prove exceedingly intractable.

In 1846, the memorable year of the "Tyler gripe," as the influenza of that period was denominated, intermittents prevailed extensively throughout the region of country in which the writer resides, as well as in other portions of the United States, and proved exceedingly intractable. These fevers yielded readily to the quinine treatment, but from the slightest exposure, and frequently

without an appreciable cause, the paroxysm recurred.

A number of relapse cases came into the hands of the writer, and many of these had experienced repeated returns of the disease, although quinine had been very liberally employed. Believing the quinine in these cases, as well as all others, only acts, through its exciting powers as an alkaloid, upon the nervous molecules in arresting the paroxysms, without imparting a supporting influence of abiding nature to the vital tone of the organism generally, and, that the intermittents, as well as the concomitant influenza of this remarkable year were attended with marked deficiency of vital force, a plausible solution of the therapeutical mystery was thereby afforded. The general liability to relapse this season, very probably, was due to defective vital tone; and quinine only acted temporarily in arresting the paroxysms, but possessing no tonic power which could reinvigorate and support vital toncity, the disease recurred as soon as its action ceased, influenced essentially by its controlling periodicity, or, in other words, by its peculiar predisposition. And to meet these new indications, the writer employed the bitter infusions, snch as of bark, serpentaria hoarhound-marrubium, the bark of cornus Floiida, and bark in substance, extract and tincture.

After two or three periods have elapsed without the paroxysm, either of the remedies which have been mentioned, may be employed, and should be administered not less than three times daily. The bark in substance, however, was generally employed by the writer compounded according to the annexed formula. ℞. Cort. cinchon flav, ℥j; super tart. potass. ℥ss; caryophyl, ℥ij; *m;* dose, a teaspoonful 3 times in die in wine. The eupatorium was also used by him in numerous cases, and these remedies were continued until the health was restored, requiring from three to five weeks time. During

the treatment, the diet was restricted, a soluble state of the bowels carefully maintained, and exposure of any kind guarded against.

Upon this plan, the writer treated numerous cases of relapsing intermittents, and in the most successful manner, after quinine had been repeatedly employed with only temporary benefit, seeming only to arrest the course of the disease for the present, without protecting the patient against a return of the paroxysms. Since this paper was commenced, a most interesting case of relapsing intermittent was successfully treated according to this method, after the repeated employment of quinine, by the use of strong hoarhound tea. The disease ceased at once and never manifested the slightest tendency to return, from the first dose of the infusion of marrubium, which the patient took, and rapidly regained his health.

Whether the views of the writer, in relation to the pathological state of the system, and the rationale of vegetable tonic anti-periodics, in the treatment of relapsing intermittents are correct or not, results abundantly declare that almost unexampled cures have followed the treatment deduced from them.

For a number of years the writer has regarded the duodenum as the organ upon which anti-periodics chiefly, if not primarily, act as therapeutical agents, in intermittents, especially quinine, and that remediate actions begining there are soon propagated to the spleen, liver and nervous centres. That the spleen is often impressed by quinine, decidedly, will not be denied, and hence it is occasionally prescribed in enlargement of that organ consequent upon intermitting fevers. He had also long believed that quinine was too freely and indiscriminately employed in the treatment of intermittents, nay, even in many other diseases. A single dose of it, if properly timed, and of carefully adapted power, will rarely fail in

its anti-periodic remedial effects. But experience establishes the important fact, that it does not fully protect the constitution against relapse in numerous cases in which it is employed.

In conclusion, it may be stated, that the treatment of intermitting fevers for a long series of years has, in a great degree, been more or less empirical, and that patients have, by reason of the unsettled therapeutical views directing their medication, been subjected to merciless overdosing in a vast number of cases. The plan of the writer is to arrest the paroxysms at once by a single commanding dose of quinine, compounded as already stated, and administered from seven to ten or twelve hours before the expected paroxysm; and if the case is one of refractory character, to repeat the quinine two or three times before each period of the expected recurrence. If the case is mild and the constitutional health only slightly disturbed, diet, soluble bowels, and the careful avoidance of exposure will generally perfect the cure. When, on the contrary, a relapsing tendency is manifested, after two or three periods have passed without the chill, the bark in substance, tincture, infusion or extract, or some other vegetable bitter tonic anti-periodic must be employed and continued until complete recovery follows. Should a relapse occur, the quinine treatment is to be resumed and managed as in the previous attacks, to be succeeded also by the bark, etc., as in those attacks. When anæmia exists, the preparations of iron will be required in connection with such anti-periodics as seem best suited to the cases under treatment.

In the compound powder of cinchona employed by the writer, the supertartrate of potassa, serves the two-fold purpose of hastening the cinchona on from the stomach into the duodenum, and of rendering the dose less disagreeable. The cloves also adds to the pleasantness of the

remedy, and may also modifiy the action of the bark in some manner, so as to augment its anti-periodic effects. Few persons who have taken this powder have objected to its bulk or taste. On the contrary, many have declared to the writer that the dose was not unpleasant. It is unimportant whether the cloves in substance, or the oil, is used in the formation of the powder. The writer has employed them indiscriminately. When oil is used it should be added after the cinchona and supertartrate of potassa are intimately united and formed into powder Dropping the oil over the powder thus formed, and allowing it to be well absorbed by it, after a few moments it can be readily and equally diffused by trituration. The powder should be kept from the air, as far as possible, to guard against the escape of the essential oil.

The cathartics generally employed by the writer, when the quinine is used in the form of pills is rhubarb in doses of six or eight grains, or like quantities of the compound extract of colocynth. When given in solution, from thirty to forty grains of sulphate magnesia, are dissolved with the quinine. Occasionally blue mass is used with the pill when the liver seems to act imperfectly. And now and then Dover's powder, in soporific doses, was united with the quinine to quiet general nervous restlessness. Some highly respectable practitioners have employed anti-periodics according to the rules presented in this paper, who have reported most favorable results to the writer, as well as the determination to adopt the method in future. The writer has employed no other for many years, nor does he expect to abandon it unless future trials of it should prove so unfavorable as to force him to do so.

ECLECTIC DEPARTMENT.

"Carpere et Colligere."

Art. I.—Phthisis.

According to very reasonable calculations, the average duration of the life of phthisical patients has been extended from two years—the limit assigned by Laënnec and Louis—to eight years. This calculation does not include cases occurring in Dr. Williams' experience in the last ten years. A comforting thought, is that if phthisis can be extended from two to eight years, there is good ground for hope that it may be indefinitely extended. Moreover, this is a true medical triumph. It is the result of the discovery of a real remedy, if not a specific one, and of a clearer conception of the true pathology of the disease. The medical world has been almost startled of late by the boldness of doctrine on this subject. Villemin's experiments, showing the possibility of producing phthisis in some animals by the inoculation of tubercle; Dr. Budd's suggestion in our columns that consumption is a zymotic disease; Dr. Buchanan's investigations, and of those of Bowditch in America, tending to show that the drying of soil, which has in most cases accompained the laying of main sewers in improved towns, has been attended with a very marked diminution of phthisis; the growing agreement of pathologists as to the nature of tubercle and its relation to commoner forms of exudation; and the very important qualification necessitated in the doctrine of the inoculability of tubercle by the experiments of our pathologists, especially Dr. Andrew Clarke, Dr. Wilson Fox and Dr. Burdon-Sanderson,—all these things tend to raise our hope that we are on the border of much more accurate knowledge of this subject than has obtained hitherto. But the pathological and etiological departments of this subject are still full of profound difficulties, and we shall for some time to come have to act upon the practical views of physicians rather than upon the theoretical views of pathologists. Let us,

then, endeavor in a short space to state the lessons of Dr. Williams' experience on this subject.

The first lesson is a moral one—that we should no longer look upon a case of phthisis as hopeless. Rather, we should regard it as eminently capable of judicious or injudicious treatment. Some of the histories of cases detailed by Dr. Williams are very graphic illustrations of the real nature of medical duty, as well as of the encouragement there is for the persevering treatment of even bad cases. They show an ever-recurring fight with the ugliest symptoms. Take one case by the way of a specimen. A clergymen, aged thirty-four, first consulted Dr. Williams in 1848. He had hæmoptysis fourteen months before. At this time he had cold and cough, and the following physical signs: dullness and tubular expiration in upper right chest, bronchophony and mucous rhonchus below the right clavicle. A few weeks after this he had a further attack of hæmoptysis in church. What is the chequered history of this (as would then be thought by Dr. Williams) most unpromising group of symptoms? "In 1849, well till last few weeks, when he had temporary cough; 1852, well and doing double duty till a year ago, when he caught severe cold and had hæmoptysis twice at short intervals; 1854, went to Madeira and passed a second winter with benefit; 1856, married; 1868, reported quite well, with a family of six children. Since last report has had two or three attacks of hæmoptysis, and some years ago severe bronchitis and congestion of the lungs. At present he is in excellent health, doing parish duty, which he has not omitted for more than two months at a time for the last twelve years. Nearly twenty-one years have elapsed since the first symptoms."

The study of the facts of individual cases of this kind seems to us calculated to make a deeper impression on the mind than statistical statements. And yet some of the statistical facts are very encouraging. Thus the 500 cases tabulated for these papers included no fewer than 287 of ten years' standing and upwards. Of the 500, 116 are dead and 384 were alive at the last report. In more than half of them the lungs improved. In one-sixth they remained stationary. Fifty-six cases were of twenty years' standing and constituted nearly one-seventh of the whole number. These facts, and the slow progress of the disease in the great majority of cases under present mode of treatment, make hopefulness and painstaking on the part of the practitioner a duty.

It is not our design to go minutely into the views of Dr. Williams. We take it for granted that our readers have ascertained these for themselves. His views of the pathology of the disease are not only such as he has long held, but they accord substantially with the recent light of pathology on this intricate subject. He regards tubercle as related to pus, lymph and other forms of inflammatory exudation: "The whole clinical and pathological history of gray tubercle seems to separate it widely from cancer and other growths, and to approximate it to pus, lymph and other exudation materials, as a modification of the ordinary process of textural nutrition." Tubercle may either be deposited insidiously, or with symptoms of an acute or inflammatory kind. Of the 500 cases selected for analysis by Dr. Williams, 66 are described to have taken their origin in inflammation of the lung or pleura, and 84 in severe cold, which may be supposed to have included some form or degree of bronchial irritation. The hereditary element was very marked in Dr. Williams' cases, being made out in 45.2 per cent.

The treatment pursued by Dr. Williams arises naturally out of his views of the disease. Where any decided inflammatory symptoms exist, he endeavors to subdue them by salines, blisters, poultices and like measures. But this discipline is only preliminary to the treatment that is to correct the error of textural nutrition in which the disease essentially consists. All remedies are secondary to cod-liver oil. But the mineral acids and bitters are constantly prescribed. There is a striking gradation in the success of the treatment to be traced in the summary given in Dr. Williams' last paper. The first improvement (from 1838 to 1848) was in connection with the habitual use of mild alterative tonics, especially iodide of potassium, with sarsaparilla and other vegetable tonics. These are at first given with alkalies, and in other chemically doubtful combinations. The lowering effect of alkalies led to the substitution of the mineral acids. In the latter half of this period, cod-liver oil came into use, and its usefulness and efficacy have gone on increasing with improved preparation and methods of administration, in connexion with various tonics, and certain rules of diet and regimen.

The great success of Dr. Williams' treatment cannot be dissociated from the social position of his patients and

their ability to protect themselves from cold and other hardships by change of climate and various comforts. But even in hospital and dispensary practice, great results may be obtained from such measures as he recommends. And we are glad to have been the medium of placing on record the particulars of his long practice. It must be a great pleasure to him to be able to regard tubercular disease so much more hopefully at the present time than he did forty years ago. Let the enemies of medicine say what they will, it is a progressive and useful science.—[*London Lancet.*

Art. II.—Tests for Sugar in the Urine.

There are many different methods, and a large number of chemical substances, by means of which sugar may be detected in the urine.

(*a.*) *Moore's Test.*—A small quantity of the solution of potassa is added to the urine to be tested, and then the urine is to be boiled. The upper part of the fluid becomes brown if sugar is present. Or, an excess of caustic potash is added to the urine and then it is to be boiled. If sugar is present, a red color will appear. Heller advises that, after boiling, a little nitric acid should be added. If sugar is present, the odor of caramel or molasses is detected.

(*b.*) *Pettenkofer's Test* depends upon the action of gallic acid and sulphuric acid upon a solution of sugar. It gives to the urine a dark-violet color. On the other hand, the presence of gallic acid is proved by the addition of a solution of sugar and sulphuric acid. This test is, however, not very reliable and is not much employed.

(*c.*) *Trommer's Test.*—A certain quantity of the urine to be examined is mixed with an excess of the solution of caustic potash and a few drops of a solution of sulphate of copper are added. If sugar is preseut, the fluid assumes an azure-blue color. When warmed, boiled, or allowed to stand for some time, the oxide of copper is reduced to a suboxide, which is deposited as a red-brown powder. The reaction is made known by the yellow color which the fluid assumes and which later becomes red, and finally dark brown. If the fluid is heated still more, a thin shining coat of copper is deposited on the walls of the test-tube.

(*d.*) *Boetger's Test.*—A solution of carbonate of potash or soda is added to the urine to be examined. A little nitrate of bismuth is then added. The fluid is then boiled. If sugar is present, the oxide of bismuth falls as a black powder.

(*e.*) *Lowenthal's Test.*—To the urine to be examined, a mixture of tartrate and carbonate of soda and chloride of iron is added. If sugar is present, the urine assumes a dark color. This test is not very certain, as oftentimes the fluid assumes a dark color when no sugar is present.

(*f.*) *Raspail's Test.*—Urine containing sugar assumes a violet color when sulphuric acid and albumen are added. This color may appear when no sugar is present. It is, therefore, an uncertain test.

(*g.*) *Runge's Test.*—A small amount of urine is poured upon a plate and a drop of sulphuric acid added. The plate is then warmed over a spirit lamp. If sugar is present, a dark spot appears where the sulphuric acid was dropped. This test depends upon the quality which a saccharine fluid mixed with sulphuric acid possesses of becoming black upon warming. Other organic bodies have the same property as sugar, and, therefore, this test is not sure. Reich recommends hydrochloric instead of sulphuric acid. This test has the same objection as that of Runge.

(*h.*) *Meauméné's Test.*—A woolen substance (merino) is moistened in a solution of chloride of tin and then dyed. If a drop of urine, containing sugar, is now placed upon the merino and then warmed, a dark spot appears. This test is very simple and convenient, as these pieces of merino can always be had. This test also is not infallible, as other hydrocarbons, besides sugar, produce the same reaction.

(*i.*) Another test for sugar is that of Cutton, with chromic acid, which is reduced to an oxide of chromium when sugar is present. Instead of the original red color of the chromic acid, a green color now appears.

In regard to tests for sugar, the test of Zwenger ought to be mentioned on account of its completeness. It depends upon the quality which nitrate of silver possesses, when heated to 212° F., in an ammoniacal solution of grape-sugar, of forming a bright metallic mirror. For this purpose some urine is evaporated. To the residue remaining after the addition of alcohol, water is added, and then an excess of nitrate of silver. The whole is

then filtered, and the fluid resulting thereform is saturated with ammonia. In order to render the test more certain, a small amount of nitrate of silver is now added, and the whole is then heated to 212° F. If a small amount of sugar only is present, a blue mirror of metallic silver is formed. If no sugar is present, the fluid is only clouded.

There are also various methods of determining the quantity of grape-sugar. The simplest method of ascertaining the quantity of sugar originated with Roberts, in Manchester. The urine containing sugar is submitted to fermentation. It suffers by this means considerable loss of weight, and from this loss of weight the quantity of sugar is determined. This method requires only an accurate pair of scales. The other methods require a great many instruments and test-fluids, among which are the polarimeter of Biot, the saccharometer of Soleil, the diabetmeter of Robiquet, etc.

The test-fluids of Fehling are especially adapted for determining the quantity of sugar. The instruments of Biot, Soleil and Robiquet, by a deviation of the polarized light to the right, show very quickly and correctly the amount of the secretion of sugar. An idea can be formed of the amount of sugar in the urine from the fact that every deviation of the polarized light, one degree on the circular scale corresponds to one grain of sugar in a thousand grammes of fluid. All of these methods require an especial apparatus. To determine the amount of sugar by fermentation, according to Robert's method, no particular apparatus is needed. The specific gravity of the urine to be tested is taken in the customary temperature of the sick-room. Several ounces of the urine are then poured into a vessel, and a piece of solid yeast of the size of a hazel-nut added. The vessel is then lightly stoppered, placed in a warm room, and subjected to fermentation. When this process is completed, which usually happens in eighteen hours, the vessel is again brought into the sick-room, and the fluid allowed to cool to the same temperature as when the specific gravity was taken. The urine is allowed to clear up, which takes place in five or six hours; it is then decanted and the specific gravity again taken. Every degree of loss of weight corresponds to one grain of sugar in the ounce of the urine. It is to be remarked that the percentage of sugar in the urine is alone typical of the extent and intensity of diabetes. To arrive at a correct knowledge of the quantity of sugar

secreted, the quantity secreted within a definite time, for example, twenty-four or forty-eight hours, should be determined. In order to arrive at a proper judgment concerning the signification of the sugar in the urine, the amount of amylaceous food, which the patient consumes, must also be taken into consideration. For example, in one case where the secretion of sugar amounts to only three or four per cent., the disease may be much more serious than in another case where six to eight per cent. of sugar is secreted.—[*New York Med. Jour.*

ART. III.—CASE OF RETROVERSION OF THE GRAVID UTERUS, REPLACED BY THE INTRODUCTION OF THE COLPEURYNTER INTO THE RECTUM. By Dr. J. GOODMAN, of Louisville, Ky. (Communicated by Prof. HENRY MILLER.)

The subject of the case was a healthy, robust woman, thirty-two years of age, the mother of six children. All her former pregnancies had been natural and her labors easy. Two weeks prior to being seen by us, she was suddenly siezed, while asleep at night, with a severe pain in the abdomen accompanied by a sensation of weight and bearing down, and, upon endeavoring to pass water, found that she was unable to do so. These symptoms continuing, the next morning she sent for her usual medical attendant, who drew off her urine and allayed the pain with opiates. After several days, no improvement being manifest, a consultation was held and an examination instituted, resulting in a diagnosis of ovarian cyst prolapsed into Douglas' *cul-de-sac*, for the relief of which, tapping through the rectum was determined upon. The patient, however, being averse to an operation, delay ensued, and finally refusing positively to submit to it, she was given up by her physicians.

It was at this juncture, thirteen days after the trouble originated, that the patient was seen by Prof. Henry Miller and myself. She was suffering greatly from distension of the bladder, and upon introducing a catheter upwards of six pints of dark-colored, ammoniacal urine was evacuated. An examination *per vaginam* discovered

the os uteri high up above the symphysis pubis, while posteriorly, between the vagina and rectum, there was a large, round tumor, the continuity of which with the os and cervix was easily traceable. The aspect of the case, so far, impressed us with the idea that it was one of retroversion of the gravid uterus, and, upon inquiry, we found that the patient believed herself to be four months advanced in pregnancy, it having been about that length of time since she last menstruated. The diagnosis being thus confirmed, we determined, in the first place, to give the organ an opportunity to resume its natural position by unloading the bowels with an aperient and keeping the bladder empty. This was persisted in for four days, when, no change having taken place, an unsuccessful attempt at reposition was made. It was now evident that more energetic measures were necessary for the patient's relief. Accordingly, on the following day, she was brought under the influence of chloroform, and being placed on her back near the edge of the bed, Prof. Miller endeavored by means of the hand, introduced into the rectum, to elevate the fundus above the brim of the pelvis; after a persistent effort, however, in which as much force was used as was deemed compatible with the integrity of the parts, sufficient, in fact, to lacerate the mucous membmembrane of the rectum and cause slight hœmorrhage, he only succeeded in dislodging the fundus to some extent, and rendering it more movable. A medium sized colpeurynter was then introduced into the rectum and distended with air; this produced violent expulsive efforts, to allay which it was found necessary to administer an opiate, but tolerance of the foreign body being at length acquired, the patient was left in a moderately comfortable condition. Upon returning in about six hours, I was delighted to find that everything we had hoped for from the colpeurynter had been accomplished. The fundus uteri had gone up and was now easily felt above the symphysis pubis, and the os was in its normal position, within easy reach of the finger. The patient declared herself entirely relieved, and as soon as the colpeurynter was removed voided her urine without the slightest difficutty. In a few days afterwards fœtal movements became manifest, and since then (two months ago) pregnancy has progressed naturally.

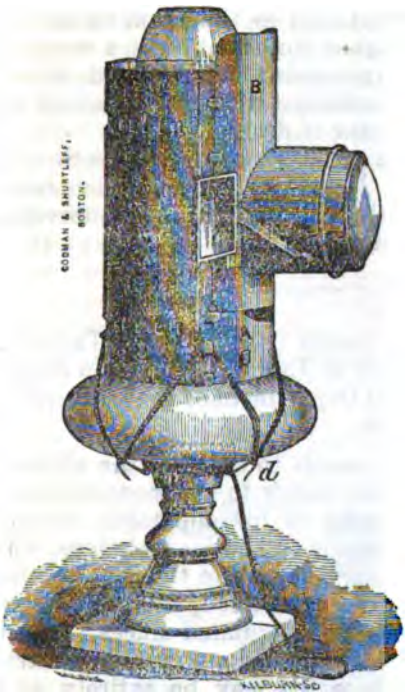
The interesting features in this case are—First, the occurrence of the accident without any assignable cause,

coming on as it did, while the patient was quietly asleep, having passed her water only two hours previously upon going to bed. Secondly, the serious mistake in diagnosis made by physicians of considerable experience, which came very near leading to the performance of an useless and hazardous surgical operation. And thirdly, the conjoint use of taxis and the colpeurynter *per ano;* a procedure I would strongly recommend, particularly in cases of sufficient standing for partial impaction to have taken place. The taxis being premised with a view of disengaging the fundus and slightly elevating it, so as to procure a lodgment for the colpeurynter immediately beneath.—[*Amer. Jour. of the Med. Sciences.*

ART. IV.—A NEW LARYNGOSCOPIC LANTERN, OR LIGHT-CONCENTRATOR. By HENRY K. OLIVER, M.D., Boston, Mass.

In common with several other gentlemen interested in laryngoscopy, I have felt the need of a light-concentrator which was portable and readily adapted to any of the lamps or gas-fixtures in common use. It is, moreover, within my personal knowledge that the study of laryngoscopy has been greatly limited by the expensiveness of light-concentrators, which are all, or nearly all, imported and adapted to particular kinds of light-stands, which must, therefore, be purchased with them. Under these circumstances, I feel justified in asking you to allow me to describe, briefly, in the Journal, a laryngoscopic lantern or light-concentrator of my contrivance, which promises to fulfil the indications first mentioned, and which can be obtained at a comparatively moderate cost.

The lantern (see the engraving below) is made up of three main portions, the front piece A, and two wings, which hinge upon the front piece and by which the diameter of the lantern may be increased beyond the diameter of any of the glass chimneys in ordinary use. These wings may be locked together at the desired point, as at *a*, *a*.



The hight of the flame, from the part of the lamp suited for a support to the lantern, varies, of course, in different lamps and gas stands, and inasmuch as the lens must be on a level with the flame, the tube containing it is attached to a slide, B, which, moving in grooves in the front piece, may be raised or lowered as found necessary. The lens is also movable within the tube, in order to admit of its being retained at its focal distance from the flame when the diameter of the lamp is changed. The movement is made by the sliding of a knob on each side, *b*, in an elongated opening in the tube.

The lantern is made firm upon the lamp by passing a bit of cord back and forth between the instrument itself and hooks, *d*, which are strung upon a cord tied around any suitable place in the lower part of the lamp. This arrangement is simple, extremely efficient and universally practicable, the latter point being difficult of attainment by any other mechanism.

By general acknowledgment, the employment of the laryngeal mirror on one's own person is an important aid in the study of laryngoscopy. There is, therefore, attached to the lantern, the second mirror, *c*, necessary for auto-laryngoscopy, which, through a very simple form of mechanism, has nearly all the movements usually afforded by a ball-and-socket joint.

If a patient, while under examination, desires to get a view of his own larynx, this mirror may be put into position and be manipulated by him. The physician in this case raises his eyes slightly, so as to look over the upper edge of the mirror.

This light-concentrator will be found useful not only in

laryngoscopy and rhinoscopy, but in the examination of the external ear. It is designed for direct light, a method preferred by many laryngoscopists to reflected light. The lens is, however, of sufficient diameter to admit of the use of the frontal reflector if desired.

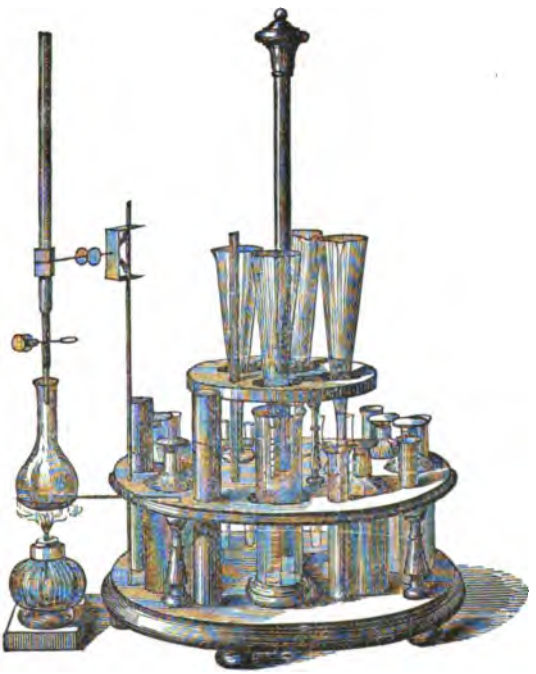
The instrument is made by Messrs. Codman & Shurtleff, who can also furnish laryngeal mirrors which bear favorable comparison with the best imported mirrors. [*Boston Med. and Surg. Jour.*

ART. V.—ROBERTS' APPARATUS FOR URINE TESTING. Improved by Dr. WILLIAM B. LEWIS, Lecturer on Renal Pathology in the Medical Department of the University of the City of New York.

Every one who has had much to do with the clinical examination of the urine, can testify to the inconvenience of having the various portions of his apparatus disconnected and apart. The lamp is on the mantel-piece, the test-tubes on the table, the urinometer in the drawer, the wine-glasses put out of sight or scattered, and the burette and test-fluids, even in the "best-regulated offices," not in position at all times for immediate use. Any contrivance, then, by which these ills may be entirely and conveniently obviated, cannot fail of a welcome from the busy practitioner. In this particular, Dr. Wm. Roberts, of Manchester, England, is deserving of gratitude, as the stand figured in his excellent Practical Treatise on Urinary and Renal Diseases, combines in a graceful form and small space, all the appliances ordinarily required. The desire to possess a counterpart of this apparatus, led the writer to furnish the necessary "drawings and specifications," from which Luhme & Co., of Lafayette Place, have constructed the caster-like stand figured in the cut. It is thought that a few improvements have been introduced by substituting, in some cases, instruments of greater accuracy and convenience than those represented in the original cut.

For the purpose of comparison and reference, the following list is copied from Dr. Roberts: 1. Three or four wine glasses; 2. litmus paper; 3. urinometer; 4. half-a-dozen test-tubes; 5. spirit-lamp; 6. nitric acid; 7. acetic acid; 8. liq. potassæ; 9. liq. ammon. fort.; 10. drop-tubes and stirring rods. For sugar-testing: 11. prepared

copper solution; 12. graduated burette; 13. two hundred grain measure; 14. six-ounce graduate; 15. small flask. These he arranges on "a circular stand of two tiers." The prepared copper solution is that of Fehling, made from the following formula: Sulphate of copper, 90½ grains; neutral tartrate of potash, 364 grains; solution of caustic soda, sp. gr. 1.12, four fl.oz. Add water to make up exactly six fl.oz. Of this 200 grains are decomposed by one grain of diabetic sugar.



The changes are these:—1. Instead of the single urinometer with its short scale and small degrees, there are two spindles of German manufacture. On one the scale runs from 1,000 to 1,020, on the other from 1,020 to 1,040, this being as high as is generally found necessary. By reason of the lengthened scale, the degrees are wide and distinct, so that, if the urine be moderately clear, the sp. gr. may be read to half degrees. 2. The 6-oz. graduate is replaced by a 4-oz. measure, on which the drachms are indicated. Space and weight are thus saved, and the smaller is more convenient. In diluting saccharine urine

for quantitative examination, Dr. Roberts directs to add 4½ fl.oz. water, to ½ fl.oz. urine. But it is as well to dilute 2 or 3 to 20 or 30 drachms, since all the fluid cannot be used in either case. 3. The chief improvement, however, is found in the change from the old to the new form of burette, which has a movable support. When arranged for use this portion of the apparatus presents the appearance represented in the cut. A brass rod is passed through the first shelf and sunk into the base. Upon this slides at right angles a spring clamp, holding with considerable strength to the rod at one end, and supporting the burette by the other. This is of such a length as to permit the burette to swing over the brass ring and arm supporting the flask.

Upon the completion of an analysis, the burette, its stand, the lamp and the flask, may be conveniently packed, each in its appropriate place. The flask support swings inward, resting on the shelf. In the quantitative estimation of sugar, 200 grains of the copper solution are diluted with once or twice their bulk of water and boiled. The urine, after dilution, is then carefully added from the burette, until, after repeated cooling and boiling, all vestige of blue color has disappeared. The computation is then easily made. One-tenth of the fluid added from the burette, is pure urine, and this contains one grain of sugar. Divide the total excretion of urine, in 24 hours, *in grains* (455.7 grains in 1 fl.oz.) by this tenth, and the result will be the total excretion of sugar in grains.—[*Med. Record.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—ANALYSIS OF VARIOUS ARTICLES. Published in the last Medical Times and Gazette, and the British Medical Journal and London Lancet, (original copies.) By Prof. JAMES M. HOLLOWAY, M.D., Associate Editor.

Joliffe Tufnell, Esq., of Dublin, reports the *cure* of two cases of internal aneurism and attributes the result to the employment of absolute rest in the recumbent posture. He writes: "Placed horizontally for some time

and kept at perfect rest, the heart's action of an aneurismal patient will be reduced 30 beats per minute (as, for instance, from 96 to 66;) and, if this diminution be calculated, it will be found that in twenty-four hours the sack of the aneurism, when the patient is recumbent, will have been distended with blood no fewer than 43,200 times less often than when the sufferer was erect."

Thomas C. Shinkwin, M.D., demonstrator of anatomy, Queen's college, Cork, junior surgeon, etc., thus summarises the points of difference between tetanus and hydrophobia, which diseases Mr. Holmes Coote is disposed to regard as identical:

"It must be evident to those acquainted with the phenomena of tetanus, that it differs from hydrophobia in the following respects. 1. It results from injuries of the most varied character. 2. The effects follow in a very short space of time, a week seldom if ever elapsing between the injury and the development of the symptoms; while the shortest interval between the bite and the first symptom of hydrophobia was twelve days, the longest three hundred and thirty-four days, and the average sixty-one days eighteen hours. 3. That anxiety, horror, dyspnœa, or convulsions at the sight of fluids, form no part of the symptoms included under the term tetanus. 4. That, in tetanus, some of the muscles are often in a state of continuous rigidity; and that the convulsions occur at much shorter intervals than in cases of hydrophobia. 5. That delirium is a very rare symptom in tetanus, and a frequent one in hydrophobia, occurring eighty times in one hundred and twenty cases. 6. That, in tetanus, the secretion of saliva is never increased. 7. That the muscles of the lower jaw are, in tetanus, frequently in a state of continued tension. 8. Opisthotonos or emprosthotonos often terminate the case. 9. Tetanus is not necessarily fatal; while it will be seen, as hereafter shown, that hydrophobia, when once developed, leaves no hope of saving the patient. These differenees are sufficient to justify hydrophobia being considered a disease distinct from tetanus."

C. G. Wheelhouse, Esq., surgeon to the infirmary, Leeds, reports in full, in the British Medical Journal, October 10, the successful treatment of a case of hydrops pericardii by removal of three ounces of pale pink coag-

ulable serum. At the time of the operation, the patient was unable to assume the recumbent posture, pulse so frequent that it could not be counted, respiration above 40, speechless, with cold and dusky skin, and eyes sunken and glazed. A small trochar was introduced along the upper margin of the fifth rib, half an inch to the left of the sternum and thrust upwards and inwards until the sack was penetrated. The point of the trochar was then withdrawn into the canula, which latter being brought in contact with the walls of the heart, the pulsations of that organ were plainly transmitted along the instrument so that they could be both seen and felt. Brandy was administered and, after several threatenings of syncope, the patient rallied and in a few weeks was able to resume his duties *perfectly cured.*

An editorial in the Lancet gives a summary of the conflicting views of a number of able physiologists, as to the place of origin of the chief urinary constituents—urea, uric acid and kreatinine.

Oppler, Schottin and Zalesky assent, upon the following grounds, that *urea*, especially, does not exist preformed in the blood, but is the result of gland action in the kidneys.

1. Extirpation of the kidneys is not followed by a large accumulation of urea in the blood and tissues.

2. That ligature of the ureters fails to establish the opposite view, because so long as the kidneys remain intact, any obstruction to the flow of urine would result in its reabsorption into the blood, and along with it the urea that had been secreted by the kidneys.

3. No uric acid can be discovered in the blood of birds, although this is the characteristic of their urine. Also, that if kreatin be digested with a piece of pulpified kidney, urea is formed.

Voit and Meissner take an opposite view on these points, adhering to the opinion that has obtained heretofore.

Dr. Peacock reports to the Clinical Society of London, a summary of 146 cases of acute and sub-acute rheumatism; 84 of these were free from cardiac trouble. Endocarditis occurs more frequently than peri-carditis; and occasionally both membranes were inflamed in the same case.

Dr. Southey observed that within the last two or three years, endo-carditis was not so frequent a complication as formerly, and when present, it was only found in cases of acute rheumatism of long duration (six weeks), while peri-carditis was more often a complication of cases running a more rapid course.

Dr. Williams thought that recent valvular disease could be distinguished from old by the "shifting character of the murmurs."

In the same society, upon Mr. Hulke's relating the history of a case of ichthyosis glossæ that had resulted in epithelial cancer, Mr. Paget remarked that "cancer, without doubt, was provoked by the long-abiding influence of chronic irritation." In the same connection, Dr. Andrew Clark said that "it seemed as though continued irritation exhausted the local power of development, leaving the growing power to run riot."

The British Medical Journal, Oct. 24, contains the following response from Mr. Holmes Coote:

- "*Sir:* Will you allow me to assure Dr. Shinkwin that he has quite failed to convert me to his opinions, respecting the marked difference between these morbid conditions commonly called 'hydrophobia' and 'tetanus.' Both words do but express symptoms; one, muscular spasm; the other, the dread of liquid; and in my last case of tetanus following injury the latter symptom was very prominent; while in the case related by me in the Times, as well as in one treated at St. Bartholomew's Hospital, the act of swallowing fluid was by no means impossible. Dr. Shinkwin must remember, with reference to the time when the first symptoms show themselves in hydrophobia, that the supposed interval of three hundred and sixty-four days (if that be true, which I very much doubt,) would merely imply that such was the time of incubation of supposed poison, capable at last of exciting tetanic spasms. Permit me to assure him that 'anxiety, horror, dyspnœa, and also, in some cases, convulsions at the sight of liquid, form a very prominent part of the symptoms of tetanus,' as seen by me; and that I am sure no surgeon put to the bed-side, without previous knowledge of the case, could, by any possibility, say whether the spasms and muscular tension were produced by some local injury, or by supposed action of the

saliva of a rabid animal. I have not remarked as yet that delirium was a common symptom in either condition. Neither have I seen increase of the secretion of saliva in hydrophobia. Opisthotonos exists equally in both. Emprosthotonos I have never seen, nor am I inclined to believe in it at all. With respect to the fatal termination in 'hydrophobia,' all that we can say is, that supposed poison, whatever it may be, excites a state of tetanus which hitherto has proved unmanageable.

The symptoms attending 'hydrophobia,' as detailed in many works, are quite unworthy of credence. The state of alarm excited in the mind of those around, sometimes even including the doctor, can alone explain away the assertion that such patients rage, rave and bite; that the mouth foamed, and that they bark like the animal who bit them. A patient with 'hydrophobia,' such as I have seen, is simply in a state of severe tetanic spasm; he is clear-minded to the last, and thankful to those around. He will take food at times, and prefer it in a liquid form; he will keep ice in his mouth; you may gently sponge his heated limbs; he is keenly alive to the dread which his condition excites in others; and I hope the day may come when we shall cure even this form of 'tetanus.'"

Dr. Bryden, who has spent some years on the Medical and Military Statistics of India, will soon issue a work containing data upon which he thinks it possible to predict a visitation of cholera, with as much accuracy as the astronomer can forshadow an eclipse.

Le Gros Clark, Esq., Surgeon to St. Thomas Hospital, has, for years, discarded the use of the gouge in the treatment of caries. He simply enlarges the sinuses leading to the diseased bone and gives free exit to the discharges, and uses suitable dressings to encourage healthy action. He prefers dilute acetic acid, instead of the phosphoric, as a bone solvent. Mr. Holmes Coote confirms his views

CLINICAL RECORDS.

"Ex Principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CLINICAL LECTURE. Delivered at the Philadelphia Hospital, by ALFRED STILLÉ, M.D., Professor of Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and one of the Physicians of the Hospital.

LECTURE IX.—ON A CASE OF ACUTE MYELITIS, WITH DISSECTION—RATIONALE OF A CASE OF FŒTID BRONCHITIS.

GENTLEMEN: I will detain this patient but a moment, while I draw your attention to her actual condition. She offers us a case of paraplegia. The peculiar characters of it I will notice presently. You will observe, if you please, that when I touch the skin of the right leg with the point of a pin, that there is at once a spasm of the limb; and the same is true of the left leg. Now, there is not the slightest sensation in these limbs, and no more power of motion in them than if they were made of wood. That is the point I wish to illustrate at present; and, I desire you to bear in mind that although there is an absolute loss of sensibility and motility, there is a very marked, indeed an exaggerated, degree of reflex action.

I have had an opportunity to present to you, within the last two weeks, several cases of paraplegia. You have had several before you in which the paralysis was evidently the effect of cold, and in which the attack came on suddenly; and you have had others in which the attack was evidently due to disease of the bodies of the vertebræ, as a predisposing and to cold as an exciting cause. In another case, we had paralysis of the lower

limbs coming on very gradually, and accompanied with extreme pain along the spinal column. Now, I gave it to you as my opinion that some of these cases were due to cold, producing, what I was disposed to call a rheumatic inflammation of the membranes of the spinal marrow. Whether I was correct in that judgment, or not, may be a matter of opinion; it seemed to me, however, to be the most rational conclusion that could be drawn from the facts. In another case, the disease appeared to depend upon a chronic inflammation of the spinal membranes. In still another, I came to the conclusion that there was a lesion of the cord; but, a lesion confined to its anterior columns. These points I endeavored to make out, but I do not claim to have formed a perfectly correct diagnosis in every instance; for, as you will find, when you come into practice and meet with such cases yourselves, the diagnosis is surrounded by a great number of difficulties, so that, in very many cases, I think the best conclusion you can reach is only a probable one. But in the case which I have just had before you there is ground, I think, for going a little further. Although the history of this case is identical with the history of several of those in which the disease arose from the impression of cold, yet, I think, the lesion is quite a different one.

Let us consider, then, the history of the case:

The woman is 22 years of age; she was born in this city; and states herself to be a widow; she is a seamstress by trade; of temperate habits. She was admitted February 6, 1868.

Two years ago she had the small pox; since that time she has not been well; has had neuralgia and always constipated bowels. She had suffered during these two years from a difficulty in passing urine whenever she took cold. Her menstrual periods have usually been regular, but, since the accident we are about to relate, she has menstruated too frequently. That is to say, she has menstruated two weeks ago, at the regular period,

and is at the present moment menstruating—two weeks in advance of the proper date. Six weeks ago, being in her usual health, she got her feet wet during a heavy shower, and also her lower limbs. She was not menstruating at that time. This exposure and this wetting were not followed by any rigor; the next day, however, she felt a numbness in the toe of the right foot, and, for three weeks the numbness gradually continued to extend upwards until it reached her waist, but affecting chiefly the right side. She then began to perceive a numbness in the toes of the left foot, also, which soon occupied the entire foot, and also proceeded upwards, but more rapidly than it did in the right limb, occupying a week in reaching the waist. During this period she suffered no acute pain, but experienced, on the contrary, a diminution of feeling and a sensation of coldness and numbness in the limb, as if it were freezing. There was no spinal pain whatever. After losing the use of the limbs, she began to perceive an itching or pricking in them, which was not induced nor increased by mental causes.

The sensibility in both lower limbs is now, and has been for some time, so far as we know, entirely lost. This loss of sensibility extends to the upper line of the pelvis where it gradually becomes less marked. Reflex action is readily excited, by tickling the feet, and especially the left foot. It should be mentioned in this connection that involuntary spasms of both limbs occur independently, altogether, of irritation of the feet or of any other part. The temperature of the limbs appears to be normal. On each buttock is a large superficial slough; the slough is as large certainly as my hand, and on each hip, over the trochanter, there is a similar slough, perhaps an inch and a half in diameter.

These are the important features in the case. Those of you who saw the other cases of paraplegia, which were before the class, will be struck at once with the very marked difference between the history that I have just detailed and all of the other histories, without a single exception. This contrast tends to show that there is here a different condition of things, a different pathological substratum for the symptoms from that which existed in the other cases, and that this case cannot be

included in the came category of cases of paraplegia.

Now, let us try to make out what is the nature of this paraplegia. In the investigation of the other cases, I went over, I think, the different diagnostic marks of all the different forms of that affection. Let us look at some of them again. For instance, I spoke of what is called reflex paraplegia. Reflex paraplegia, you will remember, arises in consequence of an inhibitory action, as it is called, produced by an irritation in some distant part of the body; it may be constipation; it may be worms; it may be a splinter in the hand, or in the foot; it may be uterine disease, or ovarian disease; or one of a variety of other causes of the same kind; and it may also arise from the very cause that operated in this case, namely, getting the feet wet. I have no doubt that this is the truth to a certain extent, though I am not willing to admit it as fully as some persons do. It is maintained that many cases of reflex paraplegia are produced by cold applied to the surface of the body, and especially to the feet. Now, what are the characters of this reflex paraplegia, characters which are agreed upon by all who have studied the subject and whose opinions are of any value? In the first place, there is this: it is always incomplete. No matter how it may be produced it is *never* absolute and total. Another thing: it never begins, as we saw in this case, in the toe or in the foot, thence to extend upwards; it is always from the beginning as complete as it going to be, or, at any rate, it occupies the whole, or nearly the whole extent of the body which it afterwards occupies, from the very beginning. That is a very striking characteristic of it indeed. Then, again, in reflex paraplegia, I believe it is almost without example for involuntary spasms of the muscles to take place but, you have observed that there were spasms of the muscles in this case, spasms occurring when the patient

was lying perfectly still and utterly beyond her control; spasms, which you witnessed when I excited them by tickling the feet. Again, another symptom existed in this case, which is described by the patient herself, and which she emphasizes a good deal, as attending the commencement of the paralysis and its gradual progress up the limb. She speaks of feeling what we technically term formication, a sensation "as if ants were crawling over the body," a creeping, a tingling. Now, that sensation is scarcely ever perceived in reflex paraplegia; and, the reason is a very simple one. If you will consider what occurs in reflex paraplegia, and what occurs in the several forms of central nervous disease, particularly, in those of the spinal marrow, in which a molecular change of substance is going on, you will at once understand why it is that such sensations should occur in the latter and not in the former condition. There is in the latter case, that is to say, in cases of organic disease of the spinal marrow, a constant molecular irritation and which is perceived by the patient in the distal portions of the nerves. Again, in reflex paraplegia, a *complete* loss of sensation is very rare indeed; but the limbs of this patient, so far as she has any consciousness of their existence, do not belong to her. And, therefore, I say, looking at the prominent characteristics of reflex paraplegia, we must decide that it does not exist in this case.

There is another form of paraplegia resulting from congestion of the spinal marrow. What are its characters? Paraplegia from congestion, or, rather let me invert the terms, congestion producing paraplegia, is, of course, a stage of the very same process which occurs in the forming stage of myelitis, or inflammation of the spinal cord; because, whenever an inflammation occurs there must first be congestion; but there may be congestion of the membranes of the cord, or there may be con-

gestion of the cord itself, or of both the cord and the membranes at once; and, if the congestion goes no farther than that, you have certain symptoms which belong to that stage only, but, if it goes farther, then you have certain other symptoms showing a more profound alteration in the structure of the cord. The congestion of the cord, then, may go no farther than vascular reflection, or it may go on to exudation, resulting in softening of the cord. Now, on these accounts, I say, certain symptoms in the forming stage of myelitis, are common to that stage and to simple congestion, which, if it goes on, occasions other symptoms belonging to the profounder alteration, and which are produced by changes in the cord itself. Now, what are the symptoms which belong to congestion of the cord? They are these: pricking sensations, or formication in the limbs; slight spasms, occasionally; bed sores, not often. So far as these symptoms go, we might say that we had to do here with a case of congestion. Undoubtedly, we have to do with a case of congestion; but we shall find, presently, that there is a good deal more than that. In congestion of the cord, however, there is a certain *limited* degree of the symptoms which we do not find here; in other words, there is *partial* paralysis. No one ever heard of congestion of the cord, or congestion of the membranes of the cord, with absolute and complete paralysis, such as you have observed in this case. Again, in simple congestion of the cord, without any lesion of its substance, there is no exaggeration of the reflex movements, indeed, there is no reason why there should be; in this case, however, there is marked exaggeration in those movements, and, therefore, I conclude that we have not to do with congestion of the cord merely.

There remains only one other possible supposition, and that is inflammation of the cord itself, or myelitis. In

myelitis it is very common for pain to be felt—pain in the spine; in this case, we have had no pain and, therefore, as far as that symptom goes, it makes against the supposition of myelitis. But, suppose that the process of inflammation should have been conducted so gradually as not to disturb materially the molecular condition of the cord, or its relations to the membranes, and you can readily conceive that changes might take place in the cord without pain. Now, in the history of this case, you will recollect this paralysis was very gradual in its development; it began in the right foot, then it extended to the leg, and it was only after it was nearly complete in the right leg that the left began to suffer; in other words, it was a very gradual, and, if I may so call it, a very gentle increase. I think, then, we have in these circumstances the probable explanation of the non-occurrence of pain. If the attack had been sudden and accompanied with active inflammatory symptoms, especially if the membranes had been involved, we should, undoubtedly, have had pain. Then, there is another symptom, which is generally found in myelitis, one that I called your attention to on a previous occasion, a sense of constriction around this body, as if a cord was tightly drawn around the trunk. In this case there has been no such sensation. But, there is this to be considered: that when the lesion is confined to the lumbar enlargement of the spinal cord, this phenomenon is not apt to occur, but it is when the lesion is in the back, within the dorsal vertebræ, that that spinal symptom is met with. You will recollect one case in which this symptom occurred, and there it was just about the waist. The absence of that particular symptom does not militate at all, against the idea of softening or myelitis.

So much, then, we have cleared away in this case:—the probability of its being a reflex paraplegia; the prob-

ability of its being due to simple congestion; and, in comparing it with the usual phenomena of myelitis, we have found the absence of two symptoms belonging to that affection—the pain and the sense of constriction about the waist. Now, let us inquire what are the affirmative or direct symptoms of myelitis which exists here. In the first place, we have one of the most characteristic, viz: formication. It attends commencing, acute softening of the spinal cord. Cramps, also, the patient had and continues to have. That is to say, she has a spasmodic, involuntary action of the muscles of the lower extremities, at first painful, while sensibility lasted, but now, no longer so. That, again, is altogether characteristic of myelitis. There is still another point, and one which I have not yet noticed, a symptom which you never, or almost never, find in simple congestion of the cord and that is paralysis of the bladder and of the rectum. In paralysis of these organs one of two effects may be observed; that is to say, there may be either incontinence of the urine and fæces, or there may be retention of both. In this particular case the woman had obstinate constipation; there was no tendency in the bowels to be moved at all, and for two weeks, she states, she had no passage of fæces whatever. As for the urine, it is not passed unless it is drawn off. So that we have paralysis of the rectum and of the bladder, which never occur in paraplegia, if I am not mistaken, except with more or less complete destruction of the cord. I should have examined the urine, in this case, to know whether it was alkaline, for, if it were, it would add a very important element to the diagnosis; since in cases of this suppressed lesion of the cord, the urine is almost always alkaline. Formication, then, and cramps, and paralysis of the bladder and of the rectum, we have found to exist; and, now, let me add anæsthesia—anæsthesia absolute

and complete so far as the skin is concerned. I did not explore beneath the skin. I am unwilling to perform an operation which seemed to me cruel, not to say brutal, although it may add to our scientific knowledge: that of plunging a needle through the flesh of a person to see whether the muscles have sensibility, or not. The electric method of determining this point I have at command. I allude to this, that you may know that the skin may be entirely insensible and yet there may be a very distinct muscular sensibility. There is, however, with this loss of cutaneous sensibility, an exaggeration of the reflex movements, a phenomenon which occurs in no other form of paralysis but that in which a lesion of the cord itself exists. There is involuntary jerking of the muscles, as you have been told several times, and the reflex movements as you have seen; and, then, to crown all, you have this rapid formation of sloughs upon the buttocks and upon the hips which is not explained by the pressure upon the parts alone, for this woman is, as you observe, of very light frame; she has not been subjected to any irritating agent since she has been here, although she has been placed upon one of our ordinary beds. There is no special reason, then, of a mechanical sort, why these parts should have become ulcerated; but they have, and they are, even now, affected with gangrene. We have, then, I repeat it, all the evidences we could possibly desire of the existence of a myelitis; a myelitis, let me add, involving the whole thickness of the cord, because every function of the cord, except the reflex function is entirely abolished.

Now, if the diagnosis I have reached by the method of exclusion, be a correct diagnosis, the question arises, how shall we treat the patient? If you will read the treatises that have been written on paralysis of the lower extremities, you will find it stated that nux vomica and strychnia

are considered the most efficient remedies in that disease. But what can strychnia, and what can nux vomica do to cure it? The experiments which have been performed on the lower animals show most distinctly, that these medicinal agents *increase* the amount of blood in the spinal marrow. If such is their action, and if they cure paralysis of the lower extremities, they must cure those cases and those only in which there is a deficiency of blood in the the spinal marrow. Have we a deficiency of blood here? I think not. I think that the reasoning which I have endeavored to present to you will convince you, as they do myself, that we have had, and that we still have an excess of blood in this woman's spinal marrow. Are we, then, to use strychnia empirically because the woman has paraplegia? or, are we to try to find some remedy which is appropriate to the condition which we think we have demonstrated to exist, one of excessive vascularity approaching to disorganization, perhaps with disorganization already accomplished. Well, then, as strychnia will tend to increase the trouble, what other remedy is more appropriate? Is there any medicine which diminishes the amount of blood in the spinal marrow? There is one; there are probably two, and there may be indirectly even three; but, according to experiments that have been made two, certainly there are, and the one is ergot and the other is belladonna. The effect of ergot and the effect of belladonna is to contract the capillary blood vessels, and therefore to diminish the circulation in the spinal marrow, and in many other tissues also, but for our present purpose we will consider only this one. If you give these remedies to animals whose spinal membranes are exposed, under the influence of belladonna or of ergot, it is found that the vessels of the membrane contract and that less blood circulates in it. Now, if the cord receives less blood, while a morbid pro-

cess is going on which is maintained by an increased flow of blood, of course the activity of that morbid pro cess will be diminished. This is the ground upon which we should employ ergot and belladonna in the present case. Ergot, the woman is taking. It was prescribed only yesterday, and probably in too small a dose to be of essential use. I see that ten drops only of the fluid extract were administered, and I would request that the dose be doubled—that twenty drops be given three times a day. At the time that the ergot was prescribed, I had not thoroughly studied the case. Now, I feel more assured of the correctness of the diagnosis and I will, therefore, request that the twenty drops of the fluid extract of ergot be given three times a day and with it the same quantity of the tincture of belladonna, observing meanwhile, the influence of the belladonna upon the pupil, so that if it produce undue dilatation or any disturbance of vision, the dose may be diminished.

The other remedy to which I referred a moment ago is iodide of potassium. You all know that it is one of the most powerful absorbents. It tends, in a remarkable manner, to remove interstitial deposits, that is, such as are outside of the vessels and are therefore beyond the direct control of the circulation. In what way it acts, I will not pretend to suggest; I do not know that we have anything better than mere conjectures in regard to it; but, the fact is, it does produce absorption of exudations, at first, and afterwards, if the medicine be continued, that it produces absorption of the normal tissues, is certain. For, you know that iodide of potassium, given continuously to a healthy person, will sometimes produce a general loss of flesh and atrophy of some of the glandular organs of the body, especially the mammæ in the female and the testicles in the male. Hence, you should always be very cautious in its administration.

Now, what is the prospect in this case, in view of such a diagnosis as we have formed, and such treatment as our judgment has led us to adopt? What anticipation can we form in regard to its ultimate issue? I wish, gentlemen, that I could offer you a favorable prognosis. I do not think, myself, that the issue will be in recovery. It is quite possible that if this woman could be treated where more comfort would surround her, than we are able to afford her here; where, by mechanical contrivances, the progress of this sloughing could be arrested or diminished, she might improve and possibly recover; but, it is only a possibility. In the great majority of all the cases of myelitis, in which the diagnosis is certain, the patients die; the softening of the cord extends gradually upward until the dorsal portion becomes involved and then the functions which are directly essential to life, become impaired and the patient perishes. What will be the case here, time only can determine.

You see, gentlemen, that I have spent a good deal of time upon this case; and, I will say now, as I have said more than once before, that I have an abundance of material in reserve and several very interesting cases. One is a very interesting case of double murmur of the heart; another, a case of sequelæ of typhoid fever, mutism, apparently, and paralysis of the bladder, with incontinence of urine; also, a very interesting case of general dropsy; but I have preferred spending our time in thoroughly analysing the cases, which we have had before you. I am quite sure that you will learn from the complete examination of a few cases, more than you would by a cursory examination of any large number whatever.*

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*Sequel of the Case.—The treatment prescribed in the text was instituted Feb. 12, 1868. On the following day the patient began to complain of trifling sensations around one ankle; the next day afterward, they were felt in the right limb, in the sores and in the spine.

The patient, gentlemen, from which the specimen, which we are about to examine, was taken, I cannot say that I have any very distinct recollection of, except that I regarded his disease as chronic bronchitis.

It was mentioned to me that he had had, or was possibly still having, gangrene of the lungs. I came to the conclusion, however, that there was no gangrene of the lungs, but that the case was one of fœtid bronchitis.

On the 15th a rigor occurred and a sensation, as of a belt around the waist, was experienced, followed by a heavy, dull pain in the lumbar spine. On the 16th, the pains increased and were very severe in both lower extremities. They were palliated by sub-cutaneous injections of morphia. On the 17th, the general condition improved and the bed-sores looked more healthy. On the 18th, the subjective pains in the lower limbs increased, but the tactile sensibility of the integuments had improved. During the following week the changes were not marked, except that that the power of moving the right foot slightly, was manifested. There was a daily exacerbation of fever. From Feb. 3d, the flesh and strength gradually declined, the stomach and bowels gave way, delirium set in, the breathing grew oppressed, owing to a sense of constriction around the chest, and, on the 10th, death, by exhaustion, occurred.

On examination of the body, all of the organs were healthy, except the spinal marrow. The cavity of its sheath contained about half an ounce of turbid serum. Five inches above the lumbar enlargement of the cord, and on its posterior surface, was an oval purplish spot half an inch long and one-sixth of an inch wide. The surface of the cord was here somewhat depressed. On incision, the substance of the cord was slightly softened and injected around this spot, especially on the posterior aspect and above it to the extent of an inch and three-quarters. At the latter point, the anterior portion of the cord was of a rose-red color. On section of the first described spot, a portion of the tissue was of a grayish yellow color and firmer than even the healthy structure. This lesion lay immediately beneath the posterior surface and in the centre of the organ; it was evidently puckered and caused the depression just described. Around the firm patch the tissue was of a rose-red color, which invaded all but the superficial layer of the anterior column, and this was softened, as were also the entire central portion and the superficial parts posteriorly. The only portions of the cord comparatively free were, therefore, the superficial layer of the anterior, antero-lateral and lateral columns, although even these were somewhat softened. Elsewhere the cord was healthy.

The patient expectorated extremely offensive pus, and finally died, as a person with phthisis might die, from exhaustion. After death, on examining the right lung it was found to be excessiveiy fœtid, as the breath had been during life. The left lung appears to be healthy, so far as any deposit is concerned; but you will observe that it presents a very high degree of emphysema. That you may see how very light this lung is, I will throw a piece of it into water. You observe how it floats, almost entirely above the surface of the liquid, showing that it contains an unusual proportion of air. Examine this portion of it and observe how the vesicles are dilated and thrust up, as it were above the surface of the lung.

The patient, I have said, was supposed to have gangrene of the lung; but several reasons militated against this idea. One is that the disease was chronic and that this excessive fœtor of the breath had lasted for a long time. Gangrene of the lungs is an acute disease; it usually very soon puts an end to life; a large cavity forms in one portion of a lobe, or the whole lobe is involved, and the patient sinks rapidly; a chronic gangrene of the lungs is unknown. If, therefore, you observe a continued fœtid odor of the breath in any chronic disease of the lung, you may be very sure that it does not arise from gangrene, and that it does arise from chronic bronchitis, either alone or in connection with phthisis.

These cases of fœtid bronchial secretions in phthisis are by no means uncommon, and they are exeeedingly difficult to treat successfully, especially when you meet with them in large hospitals. It is not only there, however, that you observe them, but even in private houses where no tainted air is ever allowed to enter. I have known the entire house to become almost intolerable, by the exhalations from the lungs of one of the most beautiful and charming young ladies that it has ever been my lot to

meet with. The fœtor was so extreme that her nearest relatives and most affectionate friends could not remain in the room with her for any length of time. In the case before us, I have not seen any evidence of tubercle. There is, however, a chronic solidification of the lower lobe of the right lung, and in connection with that a very great dilatation of the bronchia. The dilatation in one of them looks very much like a cavity. You can see it, as I hold the trachea, upon the right bronchia which descends into the lower lobe of the right lung. You see how very large it is and on contrasting these bronchiæ with those on the left side you will find them everywhere dilated; and, in one place, you observe what looks somewhat like a cavity, but its internal surface has not the opaque and rough appearance, by any means, of the membrane which lines a tuberculous cavity. The membrane is almost transparent, and unquestionably it lines "a cavity," that is a space within the lungs containing air or liquid. But it is not a cavity produced by a destruction of tissue. It is simply a dilatation of a bronchia.

The fœtid discharge and the fœtid breath in the present case, and in the other case to which I have alluded, cannot always be explained by the above physical conditions, because these are very common; but the odor of the breath, in phthisis and bronchitis, is quite different, and rarely fœtid, as you know very well. Every day we see patients dying with phthisis, and yet it is not once in a thousand times, perhaps, certainly not once in five hundred times, that we meet one whose breath has this peculiar and excessive fœtor, and yet, on examination after death in that exceptional case, no difference can be found between the condition of the lungs and that which existed in the others. I do not know why it occurs, unless it arises from some peculiarity of the individual. You know that there are some persons who

secrete from their sudoriparous glands an intensely fœtid sweat; you know that in some cases, particularly in the negro, the odor exhaled from the body is exceedingly rank. Now this peculiarity is not altogether confined to the dark races, but in some white persons, yea, in some delicate and refined females there is a peculiar fœtid odor exhaled from the armpits which requires them, in order to conceal it, as much as possible, to resort to perfumes; but, however, powerful the perfumes may be, they are often unavailing. I say, therefore, judging from these analogies, that it is possible there may be some special condition in the patient, whose nature we are not acquainted with, which would explain why this fetid odor of the breath should be found in some cases of phthisis and chronic bronchitis which does not exist in other cases precisely similar in other respects. There is unquestionably no special reason why the pus should have been fœtid here rather than in other cases, except this, perhaps, that there is a condition here which favors, unquestionably, the putrid decomposition of the pus; and you will understand me when I call your attention once more to the condition of the lungs. You have here a chronic pneumonia. I cut off a piece of the solidified tissue and I will show you the contrast it presents to the piece which I floated, just now, on the water. You see that this goes to the bottom of the vessel. Now, what is the reason? The first piece we threw into the water floated because it had an excess of air in it; so this one sinks immediately to the bottom because it has no air at all in it. In other words, there had existed in this lung pneumonic solidification, a chronic pneumonia which occupied the whole of the lower lobe and laid the foundation of the local bronchitis; the local bronchitis caused the secretion of mucus which was retained in the bronchiæ of this solidified lung. You understand, I presume, why it was retained.

Here is the lower lobe of the lung entirely solidified. Suppose its bronchial tubes contain a liquid which cannot escape. Why can it not escape? How does it escape from any patient with ordinary bronchitis? The patient coughs, and you know what takes place in that act—the lungs are compressed by all the muscles of the chest and the liquid in the bronchial tubes is forced out. But here the lung was solidified and the liquid was, as it were, shut up in a rigid box. The action of the walls of the chest, therefore, upon it was fruitless. We can thus explain why the liquid contained in this cavity should have become fœtid: it could not escape and, under the influences of the air and the warmth of the body, it became putrid and, of course, fœtid.

There is no evidence of tubercle in either lung, and there is, let me add, a reason why there should be no tubercle in this left lung. You are aware, I suppose, that the general proposition is a true one, although it is not without exception, (what rule is?) that emphysema of the lung excludes tubercle. The proposition, I say, is not entirely true, for I have known, among other cases, a member of our profession to die of tubercle after having had emphysema of the lungs for several years; but his case was exceptional. Having shown you, then, emphysema in this lung, I have given you a reason why it, at least, should have contained no tubercle. Now, you will ask me, why was this lung emphysematous? And observe, it is not only the sound lung, not only the left lung, which is, to a considerable extent, emphysematous, but also the upper part of the right lung. Why is this? I have no doubt at all that this case presents an illustration of one of the causes of emphysema. Anything which diminishes the circulation of air through a considerable portion of the lung, while the rest of the lung remains active, will pro-

duce emphysema in that sound portion. Then if, from any cause, a person have but one lung at command, suppose, for example, he has chronic pleurisy, say in the right side, so that that right lung becomes entirely useless, from the large effusion in the pleural cavity preventing its expansion, the chances are that the left lung will become emphysematous in consequence of the exaggerated function which it is obliged to perform. So, in this case, the larger portion of the right lung had become entirely useless for the purposes of respiration, so that the patient could not readily expel the air from his chest a great strain was, therefore, brought to bear upon those portions of the lungs which were still permeable to air, and, consequently, some of the vesicles became permanently distended.

You have an illustration, in this case, first, of the influence which an inflammatory disease of the lower portion of the lung has to produce chronic solidification of that lung. Next, of the influence of this interference with the function of breathing in producing emphysema of the rest of the lung. Next, of the influence of continued coughing, induced ultimately by the solidification of the lower part of the right lung, in producing dilatation of the bronchiæ, especially in that portion of the lung which had become, of course more or less inelastic by inflammation; and, finally, you have an illustration of the influence of this solidification occupying a large portion of the lung in retaining, within its dilated bronchiæ, the secretions resulting from bronchitis and in favoring their putrefaction.

ART. II.—IMPERFORATE ANUS—DEATH FROM DIARRHŒA THIRTEEN MONTHS AFTER BIRTH. By A. B. COOK, M.D., Professor of the Principles and Practice of Surgery, Kentucky School of Medicine, Louisville.

On July 24th, 1866, Mrs. W., attended by Dr. J. A. Dougherty, of this city, gave birth to a male child—the subject of this notice—which was well developed and apparently perfect in every respect. On the following morning, Dr. D.'s attention was, at the request of the anxious mother, directed to the child, when he discovered the nature of the case. In the evening, I was invited to see it, in consultation. The external genitals were fully developed, the urine had passed freely, the diaper showing, at one point, a small stain of a light brown color. There was no vestige of an anus; the raphe was continuous from the posterior border of the scrotum to the apex of the coccyx, on either side of which the skin was natural in appearance and formed, between the nates, a smooth cleft. Pressure was made, at first gently, then firmly, with the index finger of the right hand, on the raphe, at a point where the natural outlet should be; the left hand was then placed on the abdomen and the viscera were crowded down in the direction of the right index finger; the child being alternately at rest and straining during the examination. Neither tumor, impulse, fluctuation nor any symptom was found, to serve as a guide to the rectum. An operation was advised, as the only possible hope of relief, to which the parents readily assented. At our next visit, July 26th, the meconium had begun to pass through the urethra in small quantities. I then proceeded to operate with the assistance of Prof. J. W. Benson and Dr. Dougherty. The little patient was placed in the position for lithotomy, and a longitudinal incision, commencing behind the reflexion of

the scrotum, was made on the mesial line, and carried back toward the coccyx to the extent of one and a half inches, dividing thoroughly the skin and superficial fascia; the deeper tissues were next dissected, obliquely upward and backward, toward the hollow of the sacrum, to the depth of from one to one and a half inches, without finding any trace of sphincter ani muscles. A careful exploration with the finger, in the bottom of the wound, revealed no distended intestine, or impulse. I then passed a large-sized canula and trocar to the depth of two inches, in the direction of the promontory of the sacrum, and a second time, the same distance, a little anterior to this point, without success in finding the rectum. The slight hœmorrhage was now arrested, the wound filled with oiled lint, and kept open for ten days, with a hope that the straining of the child might force down a portion of intestine to the bottom of the incision. After removing the lint, the wound readily healed. July 27th, the contents of the bowels began to pass through the urethra, but not freely. For the first month or six weeks there was considerable distension of the abdomen; the child was fretful, had contracted and pinched features, indicative of pain; its sufferings were much increased when the fæces did not pass regularly. Temporary relief was given by warm anodyne poultices to the abdomen, and occasional doses of Rochelle salt and camph. Tr. opii internally. During this time it usually nursed well, but did not gain in flesh. After the sixth week, the child became healthy and grew rapidly; fæces generally passed freely and without pain; whenever they became too consistent, under Dr. D.'s direction and supervision, small doses of salines were administered to dilute the evacuations. In July, 1867, it was attacked with acute diarrhœa which, in defiance of judicious treatment, persisted for six weeks and terminated fatally on the 20th of August.

The parents kindly consented to a post mortem examination of the pelvic viscera.

The superficies of the cadaver, eighteen hours after death, showed general emaciation; the abdomen was greatly distended and tympanitic, the convolutions of the intestines being visible through its walls. The intestinal canal was almost devoid of fæcal matter and distended with gas, which exhibited to advantage numerous inflamed patches on the mucous membrane. The sigmoid flexure of the colon occupied its usual site and joined the rectum at the left sacro-iliac synchondrosis. The first half inch of the rectum was normal in size; it then diminished rapidly in calibre and formed a tubular process, corresponding in diameter to a No. 10 or 12 English gum catheter, which passed down the posterior surface of the bladder and penetrated its walls at the posterior boundary of the trigone vesicale, between the orifices of the ureters. This miniature rectum was almost surrounded with peritoneum and held in close proximity to the bladder by a small recto-vesical fold. On either side of the terminus, lay the vasa defferentia and vesiculæ seminales. The bladder was normal in size, and empty; the mucous membrane was slightly discolored. The urethra was dilated, nearly equaling in diameter the tubular portion of the rectum.

Two points of special interest and practical importance, in connection with this case, are, first, the facility with which the bladder, naturally a very sensitive viscus to all foreign material, accommodated itself to the constant presence of alvine discharges. Second, how beautifully the incessant percolation of the urine through the orifices of the ureters acted as a liquefier of the fæces. Professor Gross, in his admirable work on surgery, mentions the case of a man who lived over thirty years with this nauseating affliction. From the Prof.'s silence on the sub-

ject, I infer that no operation for artificial anus had ever been attempted. The question might be asked, why were not further efforts made either to find the rectum or to form an artificial abdominal anus? So long as the child thrived, had comparative comfort, and did not suffer from fæcal impaction, it was not deemed justifiable to attempt the first, which, after the previous failure, would have been very uncertain of success, besides the risk of wounding fatally some of the pelvic vessels or viscera. As for the second, the present unpleasant and offensive condition was, so long as no obstruction existed demanding relief, much less repulsive than the horrible thought associated with artificial anus. The child survived longer than the great majority, either with or without an operation, life being usually limited to a few days or weeks.

Of twenty-seven cases of this abnormality, collated from various sources and reported by Dr. Bodenhamer in his work on "the Congenital Malformations of the Rectum and Anus," only four survived. One of these died eleven months after birth from intestinal obstruction—no operation was ever performed; the second was alive and well one year after the operation; the third, six years; the fourth, a remarkable case, operated on by Dr. Miller, of Methven, in 1821. Before the boy "was eight months old, it was necessary to make ten incisions with the bistoury" to prevent closure of the anus; so soon as he could walk he had a penchant for eating cinders, "which, lodging in the rectum, obliged frequent operations for his relief." At the age of seven years, complete obstruction of the rectum occurred; the anus contracted to the size of a "goose quill." Dr. M. enlarged it sufficiently to admit the finger, and found a calculus as large as a turkey's egg, filling the hollow of the sacrum; he enlarged the anus antero-posteriorly, comminuted the stone with a

drill and forceps, and removed it in fragments. Ten days after, the patient was up "and the anus had returned to its normal dimensions." "At the age of twelve years, a soft stone, the size of a chestnut, was passed, without pain." Several years after, the Doctor met, in the person of his former patient, a hale, hearty farmer.

In two of the twenty-seven cases, the operation for abdominal artificial anus was performed; one child lived four days, the other two years and ten months after the operation. I would remark, in reference to the successful cases, that the intestine usually terminates in a cul-de-sac, where the tubular portion is given off and descends to some extent into the pelvis; where this condition obtains, the prospect for relief is favorable, the great difficulty to be afterwards encountered is contraction and obliteration of the artificial opening, to which there is a constant tendency. This can be prevented temporarily by dilatation with bougies; I would, however, prefer making permanent dilatation by means of a suitably shaped speculum, commencing with a small one and gradually increasing the size as dilatation was effected, facilitating it, if necessary, by incisions and continuing it, until the tendency to undue contraction was overcome.

ORIGINAL CORRESPONDENCE

"Sit mihi Fas scribere audita."

PRAGUE, 1868.

Schemes and measures, which with us require a system of chicanery among political demagogues, are here at once effected by the fiat of power. The broad mantle of liberty at home forms the sad misused cloak for so

many pretenders. The marked contrast exhibited in the founding of the large and commodious new Lying-in Hospital, of Prague, and the long and weary efforts of our board of trustees to secure the necessary co-öperation of the State Legislature for the erection of the new Commercial Hospital of Cincinnati, has induced the above remark. The same is true of similar institutions throughout Europe, though the suggestion, or incentive, in Catholic countries as this, is usually furnished by the church. The present building, which has for some time proved inadequate to the increasing demand, forms a long row of two-story plain yellow buildings on the summit of a hill just at the edge of, and overlooking the city. An old church of gray stone, whose erection extends further into time than the memory of man, forms the upper angle, while below, the receding ground affords an additional story for the culinary department. Broad long halls, spacious, well-lighted and well-ventilated wards, absolute cleanliness throughout, lend at once a cheerful and favorable impression and reflect creditably on its extensive department. Accommodations are offered for about one hundred and twenty-five patients, the private or secret apartments inclusive, which latter are for the reception of the unfortunate frail of the better class, and is made remunerative to the institution. The "getting-up" period occupies eight days, the week bed, so called, when a transfer is made to the Foundling Hospital, where the children are left, or not, as desired.

The delivery room, itself, contains six couches, the bedding is composed of a straw mattress, whose contents are changed after each birth, with three cushions of hair so arranged that the cushions at the foot can be superposed upon the centre one, thus conveniently elevating the hips for operative procedure.

Immediately after the morning obstetrical lecture, a patient is placed on each bed, for examination by touch during pregnancy. Perhaps there is nothing in obstetrics more striking to the observer, than the perfection which is attained in the external examination. In almost every case, the position is ascertained with considerable accuracy. The fingers of both hands are pressed with considerable force above the pelvis, so as to receive the head between them, then a series of rather rough palpations, with the fingers of each hand alternately, in quick succession, are made over the abdomen, to ascertain the position of the so-called "small parts," when an auscultation, which is not always necessary, confirms the result. In every one of the breech cases present, the diagnosis was so established, and it is really astonishing how readily a little practice renders it a matter of easy acquirement. Easily executed as it is without exposure, and attended with so little inconvenience, it is a matter of wonder that it is not rendered more available by ours, the most practical of all people.

During the entire process of birth, the auscultation of the fœtal heart is assiduously applied and on intimation of impairment of power, the birth is hastened; the exceeding rarity of still-born infants may be due to this cause.

In breech presentations the delivery is always preformed by extraction as soon as the cord is likely to be affected. Nothing is, of course, attempted until full dilatation of the os; then after delivery of the hips, these are seized in both hands and a series of lever-like movements with extracting force is applied, until the shoulders appear; if necessary, the sacral arm is detached, then the body turned in the proper direction so as to make the other or pubic arm sacral, which is likewise delivered and the head is engaged at the inferior strait. If now any

delay occurs in its rapid expulsion, it is thus accelerated: the hand is passed between the posterior perineum and the head and the face directed squarely into the hollow of the sacrum, after which the fingers of the right hand are placed fork-like over the back of the neck and shoulders, the palm of the hand resting on the back of the child, the left hand grasping the feet and a firm forcible traction downward toward the perineum and outward is made, bringing the occipital protruberance fairly under the symphysis, when the body elevated by the left hand over the body of the mother, develops the face gradually, but quickly from the perineum and the birth is accomplished. This is the Prager Handgriff, so-called in contradistinction to the grasp of Smellie in execution with us, where the fingers of the right hand are placed in the canine fosse and the chin approximated closely to the breast, in which, in addition, the index and middle fingers of the left hand are applied against the occiput and forcibly extended. The danger of separating the head, or injuring the spinal cord, is, according to teaching, here purely theoretical, as the moderate force requisite is insufficient thereto; besides, on experiment, it was found necessary to append a weight of two hundred and fifty pounds to the head to cause its disjunction, an equivalent of a power which is entirely unnecessary. It has ever been the plan in adoption here. In the four cases which have already occurred during this session, the manœuvre has been safely and easily affected and with good result.

The exquisite support of the perineum by the hands of the trained midwives almost always prevents a rupture. They claim to be able to foretell those cases in which such an accident is inevitable by the feel and then it is anticipated by a tolerably free incision in the side of the distended perineum, which is, immediately after birth,

united by silver suture. In the three cases in which the incision has been so made, the result was also good. Another cause of the infrequency of perineal rupture, is the manner of treatment, just at the moment of passage, "Durchschneiden" as the technical phrase runs; the mother is ordered to desist from all effort; the perineum and fœtal head are thoroughly dried to protect its passage; the head is pushed down against the perineum, against the opposing hand and then the scalp is carefully and cautiously drawn up from below, and thus the head is developed line by line, as is the favorite expression, until the parietal protruberances pass, and the elastic perineum glides back over the face, born, as it were, between two pains. The birth of the shoulders is similarly managed; first a downward force gentle but firm, then an elevation of the head, and gradual delivery of the sacral shoulder. Of course, such a system is only practicable, where exposure is complete, hence it is not likely to prove of much benefit at home. In cases of fœtal asphyxia, the child is laid on the back after detachment and the cold water dashed on the chest and abdomen with brisk friction over the anterior surface, accompanied with a natal flagellation, which in severity approximates in degree that which, in later years, forms such a powerful stimulus to industry or virtue. Should this prove insufficient, the the body is placed in a hot bath and ice water poured on the head. In the single case in which this proved unsuccessful, the body enveloped in a blanket was laid on a concave tin vessel, whose interior was filled with hot water and permitted so to remain all night. In this instance this was alike futile.

Craniotomy is performed with a long trephine, differing, except in its length, in no respect from the ordinary brain instrument. In our course on operative obstetricy, we had occasion to apply the instrument on a dead child

in the phantom, and were charmed at the ease of its execution. The cephalotribe in use is Seyfert's own, and is an improvement on all preceding German instruments; but still as compared with Hodge's light and elegant compressor cranii, an unwieldy instrument. The forceps is a slight modification of Nægeles.

The number of cases of contracted pelvis is indeed surprising, considering the large powerful frames of these women of the Sclavonic tribe, whose avocations are of the rudest character, even to carrying the hod. Perhaps it is due, however, to this very fact, extending through many generations, the adaptability is finally accomplished; the bones become firmer; the chest broader and fuller; and the pelvis deeper and narrower, more of the masculine type. The treatment in such cases is expectant, after ascertaining the exact character of the deformity, awaiting configuration of the head, some remarkable cases of which in paper imitation are displayed. If in reason of absolute or relative incompatibility, the birth is impossible, resort is had to craniotomy and cephalotripsy, or the Cæsarian section, as the individual case may demand, making, also, in this connection, a difference which appears rational between a simply living child and one capable of life, meaning by the latter a child which has not been so injured, either by pressure, or operative procedure, as to implicate its life after birth. Where the character of the deformity is previously known, premature labor is induced in time for favorable results. The method being Kirwisch's, or the injection of warm water into the vagina; the effect being ascribed, not to the contraction due to reflex action induced by the heat, but to the simple mechanical extension of the vaginal walls to their utmost limits, and consequent involvement of the cervix, as can be verified by the introduction of the finger during the injection, when it will be ascertained

that the vagina is everywhere in contact with the pelvic walls. A simple can, of a quart capacity, held above the patient lying over a proper receptacle, and a rubber tube with convenient nozzle, are all that is necessary. From one to half a dozen injections effect the result. Should the indications render the accouchment imperative during the first three months, the sound is introduced in the utero and gently turned toward each angle before withdrawal. The external pelvic measurements, in which the most confidence is placed, are the bitrochanteric which should amount to eleven inches and the circumference from the sacro-vertebral junction, ant. sup. spin. process, and the symphysis; a tape line around these points should give thirty-four inches to the normal pelvis.

The library of the Prague school is peculiarly rich, occupying, as it has throughout all time, a prominent place among obstetrical schools; it embraces in its collection of literature on this department all that has been written by cis-atlantic authors, and the lectures of the professors are rendered of particular historical interest, by the display of quaint old volumes with curious titles and odd illustrations. "The Midwives Book," by Roslin, of Worms, the first printed work on obstetrics, 1513; "a beautiful and sprightly little book of consolation, concerning the origin and birth of men, and the many and complicated accidents connected therewith," by Jacob Rueff, stone cutter and physician at Zurich, 1545; "The Female Garden of Roses," by Ryft, of Frankfort, 1615; compilations from the more ancient Greek, Latin and Arabic authors, with the English and French literature of a more recent date. With a genuine Chinese exclusiveness, the literature of America is not represented. When we consider that our sewing machines form part of the furniture of every house in Germany; that Napoleon purchased the American locomotive that secured the first

prize in the late World's Exposition; that Steinway's grand piano carried the premium over all the instruments furnished by this centre of poesy and song; that it is due to her that two distant worlds are indissolubly linked into one by the electric telegraph, an invention of her own; more, that American ideas have already infused their leavening ideas of liberty into the spirit of every constitutional power of Europe; that in medicine, herself, her contributions have been as rich and valuable as from any other quarter of the globe, we may fain rest content to bide our time when her medicine shall force itself into the world's recognition. Whenever the time may arrive, if science with us keeps pace with art, the old world may sit for instruction at the feet of the new, even as she is compelled to do in every other field of progress to-day. For the boy is father to the man.—[*Cin. Lancet and Observer.* W.

Lexington, Ky., 1868.

There is no subject of greater interest, either to the doctor or patient, than the management of the lying-in chamber; for the comfort and well being of both mother and child are directly involved. The operation known as puerperal fever, (metritis, peritonitis) is rarely seen in private practice, if all putrescence of the secretions and exudations from the mother be prevented and the apartments kept clean, pure and well ventilated. But few experienced obstetricians, now doubt that puerperal metritis is but another form of surgical fever, the difference being due to the physiological and pathological conditions of the patients at the time of the absorption of the putrid and poisonous matters.

It is seldom that any sequence follows the healing of the navel of the infant, if there is no absorption of decomposed secretions.

To prevent putrescence of the secretions and exudations in the lying-in chamber, I have been in the habit, for the past two years, of using carbolic acid in the water with which my confined patients were bathed during their "term."

From four to ten grains of carbolic acid, to the pint of warm water, should be used, depending upon the amount of fluids excreted. I usually begin with four grains of the crystalized acid to the pint of water, and gradually increase the acid.

I dress the navel of the infant, from the first, with glycerine or olive oil and crystalized carbolic acid—about four or six grains of the acid to an ounce of glycerine or oil.

By this means, all decomposition is prevented, and the persons of both mother and child are as free from odor as they should be at the end of "the month." G. S. B.

Essex Co., Va., 1868.

Your inquiry, in relation to "the capacity of the white man to successfully cultivate tidewater and malarious lands in Virginia," I presume, has reference, more particularly, to the effect of such malarious localities upon the health of settlers who have recently come from the North, or from districts not subject to diseases of that class, as the fact that the white acclimated laborer can, here, successfully compete with the negro, has now been established beyond cavil, whatever may be the case in the more Southern States, where diseases of this character are of much greater severity. Owing to the fertility of the soil, the facilities afforded for travel, and the shipment of agricultural products, the farms along our principal water courses are chiefly owned by wealthy men, who, previous to the war, employed almost exclu-

sively slave labor, whilst the lands farther in the interior, say at a distance of fifteen to twenty miles, were cultivated by small farmers, who, with their families, performed all the manual labor required. Now, however, owing to the diminution in the number of negroes, many having gone North during the war, and the extremely worthless character of those who remain, the farmers along the rivers are selling or leasing their farms to the inhabitants of the interior, who settle on them, and supply the places of the blacks. Coming, as these people do, from districts where such diseases are comparatively unknown, they would appear to occupy very much the same position as the Northeon immigrant, and yet I find no appreciable difference, either in the number of those attacked, or in the violence of the disease, as compared with the acclimated whites and blacks.

Again, taking a case more directly in point During the winter of 1866, a gentleman from Portland, Maine, largely interested in the ship-building business, brought to this county a company of sixty or seventy men, chiefly from the British Provinces and Maine. These men encamped in a body of timber, known here as "a white oak swamp." Any one at all familiar with this section of country knows the character of such places—generally low, boggy lands, readily overflowing in rainy weather. This timber is only a quarter of a mile from a creek and marsh subject to the ebb and flow of the tide in the Rappahannock, a place very favorable to the production of the diseases which are the subject of your inquiry, yet, up to this time, there has been but one case of malarial disease, in that camp, requiring the aid of a physician, the few cases of ague and fever that have occurred being easily controlled by domestic remedies.

In this connection, I may state that the older practitioners of medicine claim a great improvement in the

health of tide-water, Virginia, within the last 20 years, some attributing this result to the drainage of the lands, the introduction of lime and other fertilizers; others to the gradual change of climate, the hot weather being now much shorter in duration than formerly. To whatever cause it may be due, remittent, or, as the inhabitants here call it, "the old-fashioned bilious," fever seems to have given place, in great measure, to intermittent fever of a mild form, the latter rarely requiring the intervention of the regular practitioner. Congestive chills are extremely rare. I have not met with a case in five years.

Hoping that this simple statement of facts, so easily verified, may serve, in some measure, to reassure those who, looking to this part of the country for investments, are deterred, on the score of health, and whose assistance in developing the abundant resources of this noble old State we would so gladly welcome.

I am, very respectfully, yours, &c.,

C. L. GARNETT, M.D.

[This information is valuable to those residing in the Northern States, and it is hoped that it will attract the attention its interest and importance demand.—ED.]

KENANSVILLE, DUPLIN Co., N. C., 1868.

I will give you what has proven the best treatment, in my hands, for a number of years, of dysentery and fluxes. In the first place, I consider that the ordinary dysentery, or bloody flux, that we have to prescribe for in this section, is entirely a local affection. Being an inflammation, in some cases, extending into ulceration of the descending colon and the rectum, the fæces, coming in contact with the inflamed surface, produces stricture, hence there is no natural discharge. The discharge is a bloody mucus, exuded from the inflamed

membrane, looking, as the country women frequently tell us, "like the scrapings of intestines." Now, if we can relieve the local inflammation, we cure the disease. This can be done by local means. For the last five years, I have treated this disease with a simple injection of red pepper tea, made by pouring a pint of boiling water on two pods of ordinary red pepper (capsicum). I was led to the use of the remedy from the analogy of the disease to that of sore throat, where we find the gargle a common domestic remedy. I throw up the rectum from 2 to 4 oz. of the tea, and in a few moments tormina and tenesmus are relieved, and in a majority of cases, particularly if recent, there is no farther trouble. Should it be necessary, it may be repeated ad libitum. I sometimes follow it up with: ℞—Cream Tart. gr. xx, Pulv. Dover. gr. x, ft. pulv. I might give you any number of cases treated, but presume, if any of your readers take interest enough in the matter, they will try it for themselves. I can assure them they will not be disappointed.

Very respectfully, &c., THOS. HILL, M.D

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex Damnatur cum nocens Absolvitur."

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York, etc. Philadelphia: Henry C. Lea, 1868. 8vo, pp. 625.

Various treatises on female diseases are already before the profession. Several of these are of comparatively recent date and of considerable merit. Some, however,

are monographs, others, while systematic and comprehensive, by no means represent the most recent and the highest gynecological knowledge of the day. Many and important advances have been made within the last few years in this branch of practical medicine, but, to be gathered only from journals, pamphlets and Transactions of societies. Hence we have felt for some time the need of a work, setting forth the actual state of gynecological science at the present time. Such, we are pleased to say, is Dr. Thomas' book, the publication of which has been awaited with great interest and eager expectation, for the name of the author was in itself a pledge of the excellence of his work.

Thousands of practitioners, now scattered over the broad expanse of our continent, have listened, as students, to Dr. Thomas' lectures on obstetrics and diseases of women. And all, who have enjoyed that privilege, must recall, with pleasure, his vigorous and lucid descriptions, happy and original illustrations, and his simple, effective and philosophical arrangement and classification. Besides these, the beauty and brilliancy of his diction and the peculiar charm of his personality combined to make Dr. Thomas the most impressive lecturer and the most instructive teacher we have ever heard.

In the book before us, we are glad to recognize many of the traits which made his lectures so attractive. It is full and systematic, comprehending every subject within the legitimate sphere of gynecology.

The principles of pathology and treatment are set forth with great accuracy and clearness, and are fully up to the times.

The author is evidently master of his subject and his work is thoroughly practical. It is no mere compilation from older writers. Yet he does not ignore the labors and opinions of those who have preceded him in this field.

Dr. Thomas' work is truly his own and bears evidence, not only of great experience and extensive observation, but of much original thought and research. We are glad to find that, while his book is not devoted to the elaboration of any cherished theories, neither does it fight over again the pathological and therapeutic controversies of the past twenty years, but is really what it should be, a clear and able exposition of the actual state of gynecological science at the present time.

The first chapter is devoted to an historical sketch of uterine pathology, and a full historical notice of the important operations in uterine surgery is prefixed to the author's account of each. These constitute two original and very attractive and important features of the book.

The chapter on the etiology of uterine disease in America is written in terse and vigorous style, and is very able and suggestive.

To facilitate diagnosis, to point out with clearness and emphasis the distinctive features of obscure diseases which, while often confounded, yet differ widely from each other, seems to have been one of the author's main objects. When we consider that, admitting its great advances, gynecology is still in an undeveloped state; that the known is so overshadowed by the unknown, that accurate diagnosis is, often, very difficult and sometimes next to impossible, it must be acknowledged that not only was this an object of great importance, but also that Dr. Thomas has achieved much towards its realization.

He gives numerous tables setting forth the differential diagnosis between various uterine and ovarian diseases. They are reliable and of great excellence; they afford great assistance to the student and materially enhance the value of the book. Among others, we may mention a table of differential diagnosis between: corporal metritis and endo metritis, and cervical metritis and endo

metritis; polypus and inversion of the uterus; uterine fibroid and partial inversion; peri-uterine cellulitis and pelvic peritonitis; peritoneal hæmatocele and sub-peritoneal hæmatocele; cancer and corroding ulcer; ovarian dropsy and ascites; uterine fibroids and ovarian tumors.

There is also a valuable table of the prognosis in chronic corporal endo-metritis.

The manifold manipulations in uterine surgery, which often require great exactness and delicacy, are described with a clearness and minuteness that afford great assistance to the student and young practitioner. Yet these descriptions are neither lengthy nor tedious; on the contrary, they are so concise and to the point that they can not be said to have increased the bulk of the volume.

We regret that so small a space should have been given to the consideration of inflammatory affections of the ovaries. These diseases have hardly received the attention their frequency and importance demand. We are scarcely prepared to agree with the author, nor do we believe he expresses the actual state of our knowledge of the various forms of ovaritis, when he says: "Our knowledge of the subject is at least so far advanced as to make a 'thesis' upon it entirely inadmissible."

The illustrations are both numerous and well executed, but it is astonishing how many are copied from other works. To be sure, credit is invariably given in these cases, but it is, nevertheless, a fault which has come to be quite common in most recent medical publications. It would really be a relief see a few original plates instead of the old and over-familiar copies from Boivin & Dugès, Simpson, Virchow and others.

But withal, Dr. Thomas' book is one of extraordinary merit and constitutes a most important addition to gynecological literature. It is adapted not only to the use of students, but will also be studied with interest and profit

by the practitioner. It is certainly the best text book on the subject that we have or are likely to have for a long time to come. As such, it has already taken the position of a standard work; should be read by every student of female diseases, and must have a place in every medical library.

The publisher, Mr. H. C. Lea, has issued this volume, in his best style. O——y.

Recherches Experimentales sur une Nouvelle Fonction du Foie. Par Austin Flint, Fils, Paris: 1868. 8vo, pp. 128.

This work, as its title indicates, embodies the results of the experimental researches of Professor Austin Flint, Jr., upon a new function of the liver; this function being, summarily, that of eliminating the cholesterine, preëxisting in the blood; the cholesterine undergoing, in its passage through the intestinal tract, chemical transformation, and being discharged in the fæces as stercorine. A technicality substituted, by Dr. Flint, for seroline, the name formerly used, when this substance was supposed to exist only in the serum of the blood.

The author demonstrates the fact that, cholesterine is strictly excrementitious, both in reference to its origin and its final disposition; that it is the only excrementitious element in the bile, and when accumulated in the blood, from diminished or suspended action of the liver, that there results a cholesteræmic poisoning of this fluid, exceedingly dangerous, if not fatal in its consequences.

Dr. Flint also demonstrates the fact that there may be cholesteræmic poisoning both with and without jaundice. The poisoning, in the first place, being due to obstruction and reabsorption of the bile, and, in the second, to an accumulation of cholesterine in the blood, from a non-elminative action of the liver.

As cholesterine is an excrementitious element in the blood (the biliverdin and bile salts being manufactured in the liver,) it is evident, in simple suppression of the secretory action of the liver, that there is cholesteræmic poisoning without jaundice, while in obstruction of the gall ducts, from various causes, there is cholesteræmic poisoning, with jaundice. The administration of cholagogues, in the first condition, is clearly indicated and is generally curative, unless there be organic disease of the the liver, while, in the last, such a course would be manifestly pernicious in its consequence.

In analyzing these views, based, as they are, upon the results of experimental physiology and physiological chemistry, it is evident that the general and familiar teaching which divides the pathology of jaundice, into jaundice from suppression of hepatic action, and jaundice from obstruction of hepatic secretion is not only erroneous, but pernicious in its results.

In suppression of hepatic action, there must necessarily be cholesteræmia, but cholesteræmia without jaundice or without a bile staining of the tissues, the biliverdin or coloring element of the blood being no longer manufactured by the liver; while in obstruction of the hepatic secretion in its passage into the duodenum, there is also a cholesteræmic poisoning of the blood, but this is due to an absorption of the bile, and with this condition there is jaundice, with a bile staining of the tissues; the biliverdin being generated and subsequently absorbed.

The subject of Professor Flint's work is one of great interest, and suggests many considerations of such practical importance, as to justify a careful analysis of them, in some future number of this journal.

All physicians must welcome, with special interest, the labors of the physiologist, when these are performed in a field of such practical interest and importance; when the

results are such as to enable the practitioner to exchange obscure pathology and experimental therapeutics, for an accurate apprehension of the etiology of disease and the adoption of a treatment scientifically predicated upon demonstrated truth. Such labors, in their clinical adaptation, diminish the obscurities of disease, the trials of the physician and the dangers of the patient. They constitute the true antidote for the deadly poison of that skepticism, in regard to medical efficiency, which is undermining the professional as well as the public mind.

This paper was first published in the Americal Journal of the Medical Sciences, for October, 1852, and has recently been published in Paris.

It is to be regretted, that its accomplished author should manifest that weakness so frequently evident, at the present time, among American writers in general literature; a morbid desire to acquire a factitious reputation abroad, by having his work published in a foreign tongue. If an author has a legitimate reputation at home, his productions will, in time, be gladly published abroad, but all who take a pride in American literature will inevitably reprehend those of our authors who, justly, entitled to admiration, attempt to forestall European criticism and European appreciation, by forcing upon foreign readers a material which has evidently not yet been demanded. When an American author has acquired a European reputation, his works will certainly be published in European languages, but when such works have not a foreign circulation, it is evident that the reputation of their authors has not yet been recognized, and no action, on their part, in resorting to foreign publishers, will forestall European criticism or exact European praise.

Some American authors, like Mr. Longfellow, have foolishly resorted to the additional and sensational expedient of having their works published, "on the same

day," (for what reason, no one can tell), in several cities at home and abroad, imagining, it seems, that public sentiment, like an enemy's army, is to be captured by simultaneous attacks from many directions. How a device so foolish and ludicrous, so suggestive of a vulgar and morbid craving for notoriety, could ever have been adopted, by accomplished and refined writers, is inexplicable. The lesson taught, however, is a valuable one, that all efforts to acquire a home or foreign reputation, by any other than well-established and legitimate means, will surely entail, upon the meretricious aspirants, just ridicule and merited censure. Our professional writers have not yet made themselves thus offensive to calm criticism, to sound judgment and good taste, but any tendency in this direction should arrest general attention and elicit courteous condemnation.

It is to be hoped that this valuable paper will soon be so issued by its author, as to render the excellent material accessible to his countrymen.

THE ANATOMY AND HISTOLOGY OF THE HUMAN EYE. By A. METZ, M.D., Professor of Ophthalmology in Charity Hospital Medical College, Cleveland, Ohio. Published at the office of the Medical and Surgical Reporter, Philadelphia: 1868. 8vo, pp. 184. Price $2 50.

The author states, very correctly, that this work is a compilation. There is no pretense of originality claimed in its pages. He has, however, made too liberal a use of authors, without giving to them a proper credit. The volume has many merits; the style is comprehensive and yet concise; in a small space, there is very much analyzed and well presented; the views of the best writers, with a few exceptions, are succinctly given; most of the modern improvements and discoveries in this specialty are presented and there is an absence of that wearisome pleonasm,

so common and so reprehensible in most modern works. The plates are excellent; material, voluminously introduced into much larger works, is, by judicious analysis, presented in this volume, with brevity and lucidity. The author is manifestly familiar with ophthalmic diseases of the present, as well as of a past period. His volume is small, can soon be examined and may be obtained at a small cost. The execution of the work is excellent and reflects much credit upon all concerned in its publication.

A Hand-Book of Vaccination. By Edward C. Seaton, M.D., Medical Inspector to the Privy Council. Philadelphia, J. B. Lippincott & Co., 1868, 12 mo, pp. 383.

This is, unquestionably the best work, on this subject, that has appeared, for many years. It is, alone, a sufficient guide to the practitioner, in all the contingencies surrounding patients who may be presented for vaccination. Theoretically and practically, it is a volume of great value, giving succinctly and clearly all the information that the busy worker demands. In these days of mere compilation and book-making, it is a pleasant duty to call attention to a work, in which, without tediousness and diffusiveness, the author presents his whole subject briefly and efficiently. Dr. Seaton has enjoyed opportunities inferior to no one, for the study of the literature and the clinical facts of vaccination, and he has embodied, in this volume, the results of his valuable and extensive experience in the British service. Every physician should obtain this work.

A Theoretical and Practical Treatise on Midwifery, Including the Diseases of Pregnancy. By P. Cazeaux. Lindsay & Blakiston, Philadelphia, 8 vo, pp. 1,124; $7.00.

This work has reached its seventh edition, in France,

and fifth in America. No work, on this subject, is better known to the profession. It is unnecessary to say anything, in regard to the present edition, further than that it has been thoroughly revised and conspicuously enlarged. It may be regarded as a full and accurate exponent of this branch of science, at the present time. There is a peculiar attraction attaching to this last edition, in the fact that it is a posthumous work, being rearranged and presented to the public, by Professor Tarnier, at the request of the dying author. The labors of Professor Tarnier have been judiciously and faithfully performed. Messrs. Lindsay & Blakiston have issued this edition in their best style.

THE PHYSICIAN'S VISITING LIST, FOR 1869. Lindsay & Blakiston.

THE PHYSICIAN'S HAND-BOOK, FOR 1869. By W. ELMER, M.D. Townsend & Adams, New York.

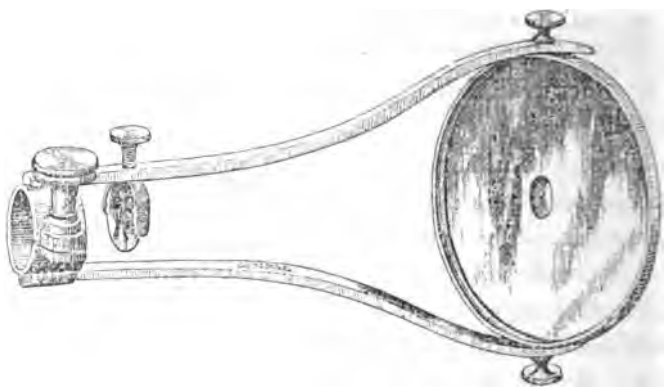
THE POCKET RECORD. By S. M. BUTLER, M.D. Philadelphia.

These useful little works are so well known, as to render description unnecessary. They are each and all admirable. The arrangement of them differs somewhat, but not materially. In price they also differ. The first is cheapest, the second is the most expensive, and the third occupies (in regard to price) an intermediate position. Dr. Butler's work has the advantage of being a continuous record, and not arranged according to the year. Doctor Elmer's book contains an epitome of the materia medica, in addition to the record of practice, an outline of diseases, medicinal doses, &c., while the List of Messrs. Lindsay & Blakiston gives, in addition to the record of practice, much useful and valuable information to the busy practitioner.

MISCELLANEOUS.

"Non Omnes Eadem Mirantur Ament Que."

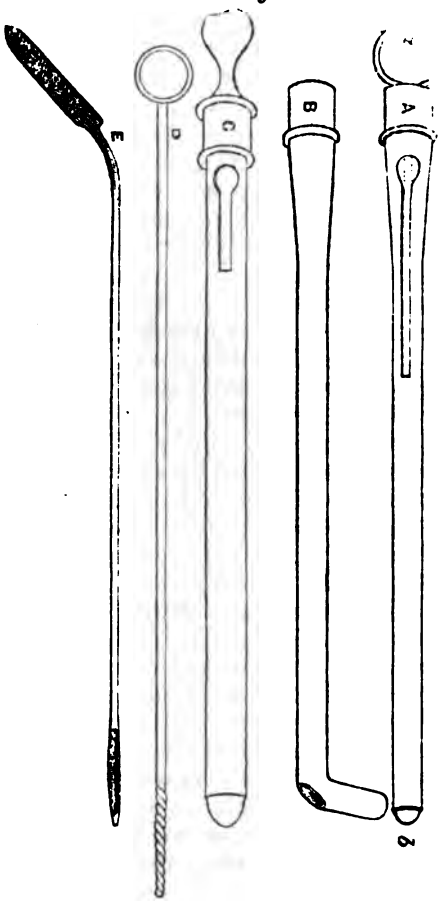
A NEW ENDOSCOPE.—Not one of the least difficulties by which endoscopy is surrounded is the complex and costly apparatus required in its pursuit. The first instrument proposed for this purpose, that of Désormeaux, is especially obnoxious to these objections. The body of the instrument, or that portion containing the reflector and lamp, is made of bronze metal and weighs about two pounds. When in use, it is held by the hand grasping the glass lamp which projects below, and by impressing upon it certain directions, the tube in the urethra or bladder is made to assume the various directions required in the examination of their walls. It is evident that the tube thus weighted with such a mass



of metal, cannot be manipulated with that amount of delicacy, certainty and safety, obtainable from a lighter instrument, and which are so essential to the successful exploration of the interior canals and cavities. Such a bulky instrument must also render the operation more or less awkward and trying to the patience, both of the surgeon and of the patient, particularly of the latter. As to the surgeon, his inconvenience will often begin with a somewhat impaired exercise of his tactile sense, arising

from the great and unequally distributed weight of the instrument he holds in his hand, and will finally culminate, especially in his first essays, with an inability to put the point of the tube with the proper amount of pressure upon that portion of the bladder which he proposes to examine. Indeed, the patient will sometimes complain of pain, from undue pressure, when the surgeon is not conscious of exercising any upon the vesical walls. As regards the patient, it can readily be imagined that such an instrument, connected with a catheter introduced into his bladder, and having a motion independent of that of his body, would soon exhaust his endurance.

Another serious objection to Désormeaux's instrument is, that in a few minutes the heat from the lamp is diffused through the whole mass of metal of which it is composed, even warming up the proximal end of the tube, rendering its manipulation much more inconvenient. In some cases, I have found the formidable appearance of the instrument, with smoke issuing from its chimney, to be sufficient terror to the timid patient, making him so fidgetty and anxious as to the safety of the operation, that the increasing manœuvres become difficult and exceedingly unsatisfactory.



From the imperfect supply of oxygen to support combustion in consequence of the defect-

ive mechanical construction of the lamp, the wick becomes gradually carbonized, so that the flame, instead of burning brightly, as it ought and will at first, dwindles to a flicker and diffuses but a small quantity of red light to be reflected by the mirror.

Dr. Cruise has made some improvements upon the original lamp arrangement by the addition of a glass chimney, which obviates in some degree the objectionable feature of imperfect illumination, but the other parts of the instrument are substantially the same as the French one. [See Dublin Quarterly Journal for May, 1865.]

Another serious disadvantage is, that this form of endoscope is exclusively manufactured abroad, and, when imported into this country, stands the buyer in about $150.

I have elsewhere [Medical and Surgical Reporter, May 9, 1868,] described the instrument of Dr. Warwick, which is free from many of the objections which I have urged against the others; besides it has the advantages over them of greater illuminating power and being cheaper. I had an instrument made for me, constructed upon the same optical principles as Warwick's, with which I am enabled to obtain very good results; but the necessary lenses and accessories made it still too costly.

After numerous experiments, I have the satisfaction of now presenting an endoscope, shown in the annexed cut, at once efficient, simple in construction, with great illuminating power and moderately cheap.

As furnished by Mr. Gemrig, of Philadelphia, the case contains the illuminating mirror, urethral, vesical and rectal tubes, a stricture knife, porte caustic and a twisted-pointed wire stylet. Price, $35.

The peculiarity of the instrument is the mode of illumination, which is effected by a concave mirror, three inches in diameter and ten inches focal length, perforated at its centre. The mirror is supported in a metallic frame, consisting of a broad ring, which is intended to slip over the proximal end of the tube; two slender arms about five inches long, project posteriorly from the ring, and clasp the mirror at opposite points of its periphery, where the connection is secured by two little milled-headed screws. By this arrangement, the mirror is movble around its vertical and central axes, so that it can be set at any desired angle to receive the light which is to be conveyed into the tube.

The source of light may be either natural or artificial. Sunlight yields the best results, enabling the observer to see distinctly the minutest details of the field under observation. As it is impossible, in the majority of cases, to use sunlight, a gasalier may be employed. In my examinations, I prefer Tobold's modification of the common reading lamp, with which the light may be concentrated upon the mirror.

In using the instrument, the patient may either stand up or lie down; the lamp is placed at his side, in a darkened room, and the surgeon having put his eye behind the perforation in the mirror, adjusts the latter with his right hand, so that light may be thrown into the tube, which is supported in the bladder or urethra by the left hand. As soon as the interior of the tube is fully illuminated, the field formed by the mucous membrane covering its end will come in view.—[*Medical and Surgical Reporter.*

The Dry Earth System.—Dr. F. D. Lente, in his "Medical Notes on the Island of Jamaica," published in the New York Medical Journal, gives some interesting details in reference to the employment of the "dry earth system" of sewages, by Dr. Thomas Allen, Superintendent of the "Jamaica Lunatic Asylum."

On assuming charge of the asylum, Dr. Allen found the dormitories constantly offensive, from the gases emanating from the badly constructed drains, and diseases generated thereby. "He closed up all these at once; and in each closet placed a suitable vessel, and alongside, a covered box of ordinary dry earth. This is the whole contrivance. A little of the earth, say two or three handsful, are first thrown in, and after the vessel has been used, the same amount is thrown over, just enough to cover it well. All odor is checked at once. In fact, odor is almost entirely prevented by the earth already in the vessel. This may remain until it is convenient for the attendant to remove it. The Doctor has extended the system to the bedside, and I can testify that it answers perfectly. Each commode has an earth box attached; and if a bed-pan is used, a little earth is previously thrown in; and what is remarkable, the discharge may be left upon it for inspection, when necessary, and the odor is completely absorbed. The contents of the vessel, when emptied, are thrown into a box or barrel

under shelter; when full, this is allowed to stand a couple of weeks, or so, when it becomes perfectly dry, and may be used over again several times, if necessary, without any change either in its appearance or odor. Dr. Allen has also used it in his own house, where he carries out the earth system, as a matter of experiment, as many as five times successively. In places, where earth is difficult to be had, this is a fact worth remembering; of course its value as a manure is thus multiplied by as many times as it is used. When assistants are scarce, the receptacle for the contents of the vessels may be kept in the hall or ward, without any danger of contamination of the air. Instead of China or earthenware vessels, for the closets or commodes, Dr. Allen has constructed, by one of his patients, a carpenter, small cubical boxes, which slide in and out, as a drawer, and which are not even lined, but merely well pitched, and then painted on the inside with gas tar; a shallow box of the earth forms the back of the commode. This answers every purpose and costs him almost nothing. I am told that ordinary sand succeeds very well, whether as well as earth I am unable to say. This system has also been introduced into the general hospital by Dr. Stevenson, and I saw there a closet, to which eighty negroes were having access for all purposes, and there was not the least unpleasant odor about it, which cannot be said of any water closet accommodating half that number, with the thermometer at 85°, that ever came under my observation."

The employment of dry earth was originally introduced by Sir Henry Lawrence, in the Punjaub, but to the Rev. Mr. Moule is due the credit of establishing it as a system. The Bengal Sanitary Commission report that "the result of official inquiries as to the working of the system in Bengal, shows that it is thoroughly established in the hospitals, lunatic asylums and goals."

Nature is always provident as well as prodigal. Where the drainage is poor, there is usually an abundance of dry earth, which, if properly used, will more than compensate for this defect, for in addition to the more thorough disposal of foul odors, it will produce a valuable fertilizer.

This system might easily be introduced as a substitute for the privies of private houses, thereby disposing of an almost invariable nuisance. Dr. Lente suggests that, "the closet, placed on the ground floor, but not neces-

sarily, might open by a door about a foot square into a back yard, and thus obviate the necessity for conveying the utensil through any part of the house; nor would it be necessary to remove the vessel more than once a day."

We opine, however, that the immediate use of the earth required after the deposition of the excreta, will always be an insuperable objection to its general employment in private houses; beside, it has the objection of being simple and natural, and is not heralded as an extraordinary discovery with the magic word "patent" prominently conspicuous.

There can be no question of the practical utility of this system in our jails, hospitals and asylums, and it is with the idea of calling attention to the subject in reference to these institutions, that we give prominence in our editorial columns to the above statements of Dr. Lente.—[*Leavenworth Medical Herald and New York Medical Journal.*

[In the same paper, Dr. Lente states that the physicians of Jamaica regard albumen, in suspected yellow fever, as the best and most positive evidence of this disease.]

Carbolic Acid in Burns.—Dr. E. R. Squibb states (Medical Gazette) that "some of the applications of carbolic acid are really but revivals of old methods of practice; thus creosote has a very deservedly high reputation as an application to burns, and as carbolic acid is medicinally, at least, identical with creosote, it is but changing the name of the agent. In my own person I have experienced its benefits, and once tried the following experiment: Accidentally scalded by a jet of steam, a solution of carbolic acid, which is kept constantly on hand, for such purposes, was at once applied on a piece of lint, before the pain became severe. In two or three minutes the pain was gone. In an hour the dressing was removed and the pain then returned. The dressing was renewed, and the pain again ceased, but to return again when the dressing was removed. This anodyne effect has not been explained, as yet, and does not appertain to its peculiar character as an antizymotic. A boy employed in my factory broke a bottle of compound spirits of ether, saturating the front of his pantaloons; this then took fire from a lamp which he was using, and he was quite severely burned over the lower part of the abdomen, the genitals, and the upper part of the thighs. In my ab-

sence, he was taken to his home, and dressed with cotton and oil. In a few hours, I obtained permission, from his medical attendant, to apply the carbolic acid, which was attended with speedy relief of pain, and he had a quick recovery. This application of carbolic acid is one of its most valuable uses."

Links of Science.—One of the most notable things about the development of modern science is the manner in which discoveries or inventions in one branch of inquiry are of immediate and signal service in elucidating other and apparently unconnected matters. Of such inventions, the spectroscope is one likely to be of incalculable advantage, as by means of its refracting prisms it is enabled to separate and exhibit the spectra or rays of light which different substances reflect, each in its own characteristic system of bands and lines of color. By this means, several new metals have been discovered, the atmosphere of the sun and other heavenly bodies analyzed, and discoveries are opening up to its powers on every hand. It has been put to practical use in analyzing the flame of a furnace during the process of making Bessemer steel, so that the exact moment when the process is complete is instantly shown by the change in the spectrum—a most delicate point of metallurgy not otherwise determinable. The latest use to which it has been put will give it a fame in the annals of medicine and of law, as it furnishes a means of analyzing and recognizing human blood, whether in abnormal secretions or disease or in dried stains upon other material. The hæmatine, or coloring matter of the blood, shows a spectrum entirely different from other substances with all its general appearance and color; so that where even the microscope fails, the spectroscope will instantly detect so small a matter as the one-thousandth of a grain of dried human blood. Thus all sciences gain from each one's progress.

Vaginismus.—Scanzoni objects (Monatschrift for Gabertskunde, Detroit Review,) to the severe operative measures adopted and recommended by Dr. Marion Sims for this troublesome difficulty. He says: "Of more than a hundred cases that have fallen under his observation, in times past, he has been completely successful in the treatment of all to which he was able to give his personal attention, without in a single case having recourse to the

knife. The first condition of success is complete sexual abstinence; for the first three or four days a tepid sitz bath should be used night and morning; warm local bathing with ug. goulardi, or the same applied with lint, several times a day. Defecation must be regulated and friction from motion carefully avoided. After a few days the sensibility of the parts will be so much allayed that a solution of arg. nitrat. x–xx grs. to ℥i may be applied with a brush. After about eight days continuance of this treatment, vaginal suppositories of ext. belladonna and cocoa butter may be placed behind the hymen and in contact with it daily. These remedies, either alternately or simultaneously, must be continued until every trace of inflammation has disappeared and the normal sensibility is restored. Generally two or three weeks will be required to attain these objects. Then dilatation must be commenced, but for this purpose sponge tents are useless. A graduated series of milk-glass conical specula are best adapted to this object. After the first slightly painful attempt, the patient generally will be able to introduce it with facility, and it may be allowed to remain from one-half to one hour. Even when the hymen remains, it will not be necessary to incise it, as dilatation can be effected without recourse to that measure. At first the dilator may be used every two or three days, then every day or twice a day for two or three hours, gradually increasing the size of the dilator until the object shall have been attained, which, in some instances, may require an instrument admitting dilatation, as that of Segalas. Sitz baths, balladonna and pencilling with nitrate of silver may be required from time to time, and the cure will usually be completed in from six to eight weeks. It will be seen that, although the treatment of Sims is attended with an equally satisfactory result, it is of a much more serious character (a fatal result from hæmorrhage is reported to have occurred) than the treatment adopted by Scanzoni; and, after the operation, the success of the treatment depends generally upon the subsequent dilatation. The time required, moreover, is nearly the same by either process. Hence the procedure of Sims is in no respect to be regarded as an advance in gynecology, as little so, even, as is his operation of splitting the cervix uteri, which, with such glowing eloquence, he lauds for the cure of dysmenorrhœa and sterility. Scanzoni is thoroughly convinced that these are but surgical splurges, that im-

pose on the inexperienced only, while the professional expert justly ignores them. He predicts their fate. For a time they will be the theme of much remark; soon after, they will pass into merited oblivion."

MEDICAL NEWS.

"Nulla Dies, Sine Linea."

CYANIDE OF POTASSIUM.—A curious, and at the same interesting, fact has recently been made known by the scientific journals. Cyanide of potassium, much used by photographers, is an exceedingly dangerous poison; and they will be glad to hear that the painful ulcers and other bad symptoms, which it produces, may be effectually prevented, by rubbing the hands, when soiled with it, with a mixture of proto-sulphate of iron, reduced to a very fine powder, and linseed oil.—[*Ex.*

ON the 23d of August, a statue to Laënnec was inaugurated at Quimper, (Brittany), his native place, with imposing ceremonies. Orations were delivered on the part of the General Association of Physicians of France, of the Academy of Medicine, and of the Faculty of Medicine of Paris, of the profession at large, and of that of Brittainy in particular, by Messers. Tardieu, Rogers, Bouillaud, Lediberder and Halleguen, respectively, followed by a grand banquet.—[*Ex.*

MR. SAIX has sent in a paper to the French Academy of Science, on the artificial production of black, colorless and colored diamonds. If a current of chlorine be made to pass through cast iron when in a state of fusion, perchloride of iron is formed, which disappears by evaporation, leaving the carbon of metal, at liberty, in a chrystalized state.—[*Ex.*

CONVENIENT VEHICLE FOR THE APPLICATION OF NITRATE OF SILVER.—At University College Hospital (London) they have adopted the plan of dissolving nitrate of silver in nitrous ether; it can then be spread with a camel's hair-brush over a surface and the ether immediately evaporates.—[*Ex.*

EDITORIAL.

"Nullius Addictus Jurare in Verba Magistri."—Hor.

The Close of the Year.—From time immemorial, it has been charged upon physicians, that uncertainty and discrepancy constitute the prominent characteristics of their art. That "doctors will differ" has become an aphorism, "as familiar as household words." Yet when we analyze the cause and the history of this proverb, we do not find that its origin is justly to be ascribed to any specific vices or deficiences in medicine, but that it is the unjust limitation of a truth which is really applicable to all sorts and conditions of men. We find that "doctors will differ," as all men must differ, from causes inseparable from humanity; from that finiteness inherent in the mental, as well as in the physical organization of man. All classes differ, and when we examine this fact, it is evident, to the fair and impartial mind, that this difference is as great (if not greater) among them, as it is among the most polemic and disputative in the ranks of our profession.

Agriculturists, whose property is divided only by an arbitrary line, differ in regard to the cultivation of every product of their labor; yet the elements of the problem, which it is their mission to solve, are not concealed, as is the case with the physician, but are both tangible and visible.

The various grades in our courts of justice are eloquent witnesses of the uncertainties, the differences and the discrepancies of the law.

The successes or failures in the mercantile and com-

mercial world are, as a rule, the logical result of differences of opinion and differences of action, in the prosecution of easy pursuits and the simplest callings.

The Mormon and the Romanist are the antipodes in theology, while every varying note in the church-bells, whose music welcomely breaks the stillness of the Sabbath morning, testifies to the bitter differences which divide our clergy and give existence to the varied temples, in which man is called upon to worship.

Differences of opinion among statesmen subvert cabinets and change the whole policy of governments; while among the masses, antagonism in political opinions annihilates thrones; crushes the most classic constitutions; arrays, in revolution, even the social elements of a people and consigns thousands to a bloody and a violent grave.

Is it, therefore, a just reproach to physicians, or a specific and peculiar fact, that they also differ? When those who deal with the tangible and visible elements in the great problems of modern life never agree, is it just to use, towards those who are called upon to deal with the intangible, the invisible and the vital phenomena of our existence, the popular satire, that "doctors will differ?" It is wonderful, when considering the great obscurities which they have to analyze, that they can ever agree, and it is gratifying to record the historical fact, that just in proportion as these obscurities are illuminated by the light of science, do these differences, inherent in the subjects and not in the men, progressively disappear.

Just in proportion, also, to the disappearanee of these obscurities is there a sure advance in life and civilization, as well as in the intricate science of medicine. Indeed, the great compensation for all of our existing obscurities is, that they are incentives to investigation, and that investigation becomes the parent of progress and of truth. Progress is indeed the offspring of these uncertainties.

Shame, then, upon that skepticism and despondency which the professional mind is so prone to attribute to the obscurities and uncertainties which surround it, and, under the influence of which, instead of manfully and faithfully struggling for an assured reward, it weakly yields and childishly succumbs. Shame, also, upon those who are idlers in their allotted portion of the professional field; who are ready to surrender or retreat before any popular attack made upon their adopted cause, rather than aid in battling for results, whose benefits they are always so ready to enjoy.

There are those, in our ranks, who are ever ready to sustain the popular tendency to degrade the past history of medicine, to depreciate its present triumphs and to sneer at its future progress, but there are also those who are either successful workers themselves, or who are proud of the privilege of honoring their more fortunate co-workers in the professional field. It is a cause of gratification to look back upon the pathway of medicine and to see it triumphal in the monuments which, along its entire extent, dignify and adorn it. It is profitable, as well as pleasant, at stated periods, thus to look back, to mark the progress of our work and to record the labors of our workmen. Perhaps, at no period of time is the indulgence of this duty and inclination more appropriate, than at "the close of the year." The profession has passed through another year; let us examine the results of its toil.

In general or surgical anatomy, there is not, perhaps, anything of special importance to record. In microscopic anatomy, on the contrary, the year has been one of unusual interest. Dr. Lionel S. Beale has worked with distinction, certainly, if not with entire success, in the field of histology. His views on the structure and formation of nervous centres, tending to prove that the cells

and fibres of every nervous apparatus form an uninterterrupted circuit, are most interesting and suggestive. It is, however, specially in his analysis of cell theory, in its relations to histogenesis, that his writings have deservedly attracted most attention. In such a paper, details are manifestly impossible. It is only necessary to say that Dr. Beale's expositions have given a severe shock to the teachings which the profession has so generally received and believed, in regard to the agency of cell formation and cell growth in histogenesis. The teachings of Schleiden and Schwann, in the early part of this century, and of Virchow, and others, in more modern times, that each cell springs only from a cell, "omnis cellula ê cellula" has certainly received, from Doctor Beale, a rude and, most probably, a mortal thrust. He discards the classic names of nucleolus, nucleus, cell contents, cell walls, intercellular substance, &c., limits the whole problem to the simple discussion of "germinal matter" and "formed material," and discarding these names, enunciates new and interesting principles, in the mode of tissue formation. According to Beale, instead of there being a primordial cell, there is, first, a clear fluid, "the germinal matter," next, in order, small granules appear, these now coalesce, then, growing larger, they become minute masses showing molecular motion. Next, little currents are seen moving to and from the centre of each little mass, and there is centrifugal accretion, or accretion from centre to circumference, established. The appearance of these currents, Beale terms "the first dawn of vitality." These germinal masses coalesce, and there is then cell formation, proliferation, incipient histogenesis, &c.

As demonstrable facts, these teachings of Beale are fit subjects for profound reflection. Some see in them a return to the atheistical doctrine of spontaneous generation,

but there is no reason or justice in this assumption, for Beale distinctly declares, that germinal matter must "spring from preëxisting germinal matter," and then be perpetuated by the agencies of nutrition. Dr. Beale is always interesting, often profound, and generally analytical in his style, like all who assume the position of original discoverers, however, he is very enthusiastic, sometimes visionary and at times, as tried by the laws of reason and common sense, ambiguous and even foolish; this is particularly evident when he speaks of cell action, life, vitality, &c., or when he passes from the analysis of physical manifestations to the origin and essence of physiological phenomena. Like all men, when he attempts to break down the barrier which so widely separates the physical from the physiological, when, not content with an examination of the evidences of vitality, he seeks to raise the veil which providentially guards and conceals it, we feel that the strong man has become weak, and are ready to exclaim, with the inspired tentmaker, that "the wisdom of man is foolishness."

It is evident that Dr. Beale's views, in regard to histogenesis, must form a permanent and most interesting portion of our future teachings in microscopic anatomy.

Robin has made important additions to this branch of medical literature, in his discoveries in regard to the epithelium of the blood vessels.

Sappey has demonstrated the existence of the nervi nervorum, as in all respect parallel, in their distribution or relations, with the vasa vasorum, or that the first are to nerves what the last are to the blood vessels.

In physiology, Seegen has proved that, contrary to received views, nitrogenous material is not solely excreted by the intestines and kidneys, but that the lungs and skin are supplementary agents in accomplishing this result.

Cohnheim has demonstrated the interesting fact that the

leucocytes or white corpuscles, of the blood, are not only similar to pus corpuscles, but that, by "emigration" through the walls of the blood vessels, these bodies become the actual corpuscular element in all purulent collections.

In pathology, microscopic examinations have proved that the pus corpuscle, the exudation corpuscle, the lymph corpscle, in all inflammatory exudations, are strictly the leucocyte or white corpuscle of the blood, which, as Cohnheim shows, has emigrated, and that the changes impressed upon, or produced in it, are due to its extravascular relation or condition.

All recent analyses have demonstrated that the old teaching of biliverdin being due to the destruction of red-blood corpuscles and the metamorphosis of their elements is erroneous; that biliverdin does not exist in the blood, that it is manufactured in the liver and that cholesterine is the only excrementitious element of bile found in the blood; that jaundice is essentially due to obstruction of bile excretion with subsequent absorption, and is not the result of suspended hepatic action.

Hammond has corroborated the teachings of Becquerel Rodier, and others, in regard to chlorosis; that it is neu rotic in its etiology and is in no respect similar to anæmia; that if the patient is anæmic, this is a secondary result, and is due to impaired nutrition and assimilation. That poverty of blood in chlorosis is not a primary but a secondary phenomenon; that anæmia and chlorosis are different pathologically, different in history, different in the results of hygenic influences and therapeutic interference.

Analyses of blood in health and varied diseases show the important fact, that the amount of fibrin has no relation, as is taught, to sthenic or inflammatory conditions existing, or to the asthenic or cachectic phenomena mani-

fested. In hospital gangrene there is as much fibrin, as there is in arthritic rheumatism; in carcinoma there is far more fibrin, than is found in pneumonia; in cerebritis there is less fibrin than there is in scrofula; in remittent fever (first week) there is often less fibrin than there is in scrofula and phthisis. Defibrinating treatment in inflammatory conditions has thus lost the scientific basis, upon which it has been predicated.

The pathological significance of the presence or absence of the chlorides in urine has virtually, by clinical facts, been destroyed.

Prof. Salisbury's contributions to parasitic pathology seem to be viewed with distrust and skepticism, both at home and abroad.

Sugar in the urine is claimed as a valuable diagnostic, in forensic medicine, of death from cold.

In chemistry important advances have been made in the study ef the spectrum analysis. Dr. J. Jones has demonstrated the fact that, prussic acid destroys life, by its action upon the medulla oblongata and spinal cord. Of all the alleged antidotes for strychnia, none have proved uniformly reliable—iodine has accomplished the best results.

In materia medica, bromide of potassium; carbolic acid; the calabar bean; the sulphites; the hyposulphites; the action of conium, hyoscyamus and belladonna; inhalations; the action of digitalis; narcein; the very old treatment of dysentery by large doses of ipecacuanha; the action of glycerine, (through its affinity for aqueous fluids), in successfully removing furuncles, incipient inflammation, coryza, urethritis, erysipelas, etc., by its depletory action upon the tissues; the capillary constrictive influences of belladonna and ergot; iodoform in chronic and syphilitic ulcerations; the use of the oil and extract of sandal wood in gonorrhœa; the tetrachloride of car-

bon, the protoxide of nitrogen, the bichloride of methylene as anæsthetics have chiefly attracted attention. These agents will be alluded to in connection with other subjects.

In surgery there is an increasing tendency to rely more upon torsion and to confine the use of the ligature chiefly to controlling hæmorrhages of the large vessels. The treatment of syphilis without the use of mercury has not an increasing number of advocates. The employment of carbolic acid for the prevention of suppuration, and in the treatment of wounds opening into the joints, as advocated by Lister and indorsed by Syme, is very slowly tested. Indeed, this treatment has already produced trouble and created disappointment. Acupuncture does not receive the consideration its great merits deserve. Sir Jas. Simpson's experience is consecutively more flattering and satisfactory. Joynes' treatment of nævus by painting with collodion deserves special mention. There has been no new hæmostatic suggested worthy of notice; the perchloride of iron is still the favorite. Wales' new endoscope, as described in this Journal, should be mentioned on account of its economy and efficiency. Taylor's treatment of spinal and hip-joint trouble is deservedly valued both at home and abroad. Clark's mode of treating fractures and dislocations has been highly eulogised; the results are excellent. The management of fractured ribs by application of adhesive strips over the fractured bones only, instead of using the old roller treatments, is worthy of mention. Repeated instances of bone safely treated and preserved, when the periosteum has been violently destroyed, teach the folly of removing denuded bone, unless the fragments are entirely isolated. The treatment of cancer by the injection of acetic acid has proved a failure. Clinical facts show the advantages of lithotripsy over lithotomy in those over forty; the pro-

priety of confining the operation of lithotomy to the young and the increased advantages to be derived from the most recent instruments for lithotripsy. The écraseur is being limited in its use to those cases in which ligation is difficult and secondary hæmorrhage frequent and uncontrollable. The operation by "the long incision" is accepted as the best radical cure for hydrocele. Gonorrhœal rheumatism is a specific disease and differs totally from true arthritic or muscular rheumatism. The treatment is radically different. Purgatives, depressants, hæmostatics, should be avoided. Syphilization seems to be an effective mode of treatment, but is so repulsive in its associations as to gain no adherents. Chloroform, with the many recorded deaths from its use, is still the favorite anæsthetic. Nitrous oxide, whatever may be the theoretic objections against its use, as urged by Richardson and others, has proved to be the safest anæsthetic for brief operations. Operations for removing growths from the vocal cords, have, by the use of the laryngoscope, been repeatedly and successfully performed. In aural surgery, there have been but few evidences of progress. The percentage of recoveries from tracheotomy increases yearly. Whitehead, of New York, has made excellent contributions to surgery for cleft palate. Bumstead has simplified and improved the treatment of urethral stricture.

In obstetrics, there is a welcome disposition to return to conservative practice. The mania for cutting and slashing the vagina, the os and neck of the uterus, is subsiding. Gyneocologists have agreed that the uterus and its appendages can be better cared for, than by the sanguinary and radical measures so recently in vogue. Storer's operation, for pocketing the pedicle, proves to be an old one, though there is no reason to believe that the fact was known to the Doctor. In addition to the

many speculums before the public, Bozeman, Nott and Storer have presented others. All of these instruments have their peculiar merits. Time must determine which of them is best. Hausmann has announced the important, fact that the deciduous membrane is never thrown off from the virgin uterus; that it is an evidence of abortion. The douche seems to be the safest and best mode of inducing premature labor. Injections have produced serious results. Carbolized tents have become more and more acceptable and efficient. Fordyce Barker has given interesting facts in regard to the use of chlorate of potassa in the prevention of abortion. Faradization in flooding from uterine inertia is worthy of mention. Postural treatment, in prolapse of the funis was used, it appears, by Deventer, as early as 1701. Thomas, nevertheless, originated its adoption in this country, as the above fact was not known to him. He has contributed a masterly paper on the treatment of placenta prævia. Clitoridectomy has, for the credit of the profession, been tabooed.

In the practice of medicine, the chief feature of the year is the increasing success of the profession in the treatment of phthisis. Dr. Williams, of London, has published facts that are gratifying and most encouraging. A summary, in this connection, will be found in the eclectic department of this number of the Journal. Cod liver oil, the hypophosphites, hygiene, inhalations, &c., have proved to be the great remedial agents. After all the experiments of Villemin, Sanderson, Fox., &c., the true nature of tubercle is yet vague and undefined, nor is it settled whether phthisis, as taught by Laënnec, is a primary disease, or whether, as claimed by Neimeyer and others, it is often the result of the products of pulmonic inflammation. The relations of phthisis to hygrometric conditions of the atmosphere, have been most in-

terestingly aud fruitfully analyzed, during the past year. The treatment of tetanus, by the calabar bean, has given the best results. The use of the bromide of potassium, in varied diseases, has diminished. Its true physiological effect seems, after long experience and experiment, to be that of a vascular and nervous sedative; nothing more. Carbolic acid, if the reports are to be credited, is to bless us with the euthanasia of Cæsar. That it is eminently antiseptic and anæsthetic, either locally or internally used, is clearly proved; time must give it its true place in our therapeutics. The hyposulphites in malarial fever have not produced the good results claimed. Narcein has disappointed those who have tried it. The old treatment of dysentery, by large doses of ipecac, has been revived, with some foolish claims to originality. There are many minor novelties, not necessary to mention. Treatment by inhalations is deservedly becoming more general and satisfactory.

It will be thus seen, that the past has been a busy and a fruitful year to the profession. The record here made is, confessedly, unjust and incomplete, but when it is known to the reader, that the printers and the editor have simultaneously worked upon this editorial, that there has been no time or opportunity for correction or revision, due allowance will, surely, be made, for its defects and deficiencies.

In his small and peculiar orbit, the editor, in his journalistic relations, has had much cause for gratification and encouragement. The Journal has been, for evident reasons, conspicuously enlarged and improved; its friends have largely increased; its associate editors, so well and eminently known, have, confessedly, elevated the work, in the estimation of the public, and extended the area of its circulation; the literary contributions are increasing monthly in number, in importance and interest. For

these and many kindred reasons, the editor returns his thanks to his friends and the supporters of the Journal, promising that, during the next year, the work will be constantly improved in appearance and value.

Another twelve months of pleasant relations with the subscribers to the Journal is about expiring, and the editor embraces the opportunity of tendering those good wishes which are acceptable to all, and which custom suggests and sanctions at "THE CLOSE OF THE YEAR."

THE MEDICAL BULLETIN.—The first number of this Journal has been received and the work is with pleasure added to the exchange list. It is published twice a month at Baltimore, Md., by Professor Edward Warren, M.D., editor and proprietor, and at the low price of $2 a year. The first number is neat, well printed, and is edited with judgment and care. The editor has our best wishes for his success.

MESSRS. HEGEMAN & Co. have furnished the editor with specimens of his cod-liver oil and elixir of calisaya bark. The preparations compare most favorably with others that have been examined and, from the character of the house, it is believed that they fairly represent the articles mentioned, as they are sold to the public. Messrs. Wilson & Peter, of this city, are their agents.

THE FIRST PARAGRAPH IN REGARD TO MONEY, during the entire year, is now introduced into this Journal. Its object is to request that all subscribers will forward the amount due for 1869, as early as practicable. The enlargement of the work, its removal to this city, etc., have

much increased the expenses of publication, and all expenses, it is proper to say, *must* be met at the end of each month, throughout the year. There are some subscribers who, by special agreement, have had the Journal furnished, until, as was stated by them, payment could be made without serious inconvenience. The editor asks that *all* subscribers will oblige him, by bearing these facts in memory and that they will come forward, in response to this first public request, and enable him to discharge his arduous labors as a journalist, without pecuniary trial or embarrassment. As the Journal will be much improved next year, this money is needed now.

Important Work for Every Physician.—The organization of medical societies, and the procuring of the enactment, by State legislatures, of three laws: one for the legalizing of dissections; the other establishing a State bureau for the recording of births, marriages and deaths, and the third, making it a penal offense for any one to practice medicine in a State, without a certificate obtained from a State board of medical examiners. In Kentucky the work of securing a record bureau is entrusted to true men. They must succeed. The *whole* work should be done.

Messrs. Cromie & Sherrill, 68 Fourth street, Louisville, Ky., have disposed of their stock of books, etc., to Mr. R. H. Singleton. The assortment of medical books and of works of miscellaneous character kept by this house is excellent. Physicians and students will find it to their interest to examine this stock, and they are assured that all transactions with the house will be pleasant and satisfactory.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE.—By a typographical error, the advertisement in the November number of this Journal places this venerable institution in a ludicrous position before the public. The University is represented as being upside down.

IN the November Journal, the American Journal of Obstetrics was called, by mistake, the New York Obstetric Journal.

NOTICES.

IF ANY defects are discovered in the printing, binding or mailing of this Journal, subscribers will confer a real favor upon the editor, by promptly communicating with him. All of these departments are in charge of those skilled in their business, and it will be as satisfactory to them, as it must be to the editor, to have errors carefully indicated, that they may be quickly corrected.

BOOKS AND JOURNALS RECEIVED.

A Treatise on the Principles and Practice of Medicine. By Austin Flint, M.D. Philadelphia: Henry C. Lea, 1868. From the publishers, through R. H. Singleton, Louisville, Ky.

Outlines of Physiology: Human and Comparative. By John Marshall, F.R.S., Professor of Surgery in the University College, London. Henry C. Lea, 1868. From the publishers, through R. H. Singleton, Louisvi le, Ky.

The Medical Formulary, being a Collection of Prescriptions derived from the Writings and Practice of many of the most Eminent Physicians in America and Europe. By Benj. Ellis, M.D. Philadelphia, Henry C. Lea, 1868. From the publishers, through R. H. Singleton, Louisville, Ky.

Retinitis Nyctalopica. By Prof. Dr. Arlt, of Vienna. Lindsay & Blakiston, Philadelphia.

Alveolar Abscesses. By Dr. W. H. Shadoan, D.D.S., Louisville, Ky.

The Materia Medica in its Scientific Relations. New Haven, Conn., 1868.

Introductory Lecture of 1868-9 at Bellevue Medical College. By L. A. Sayre, M.D., Professor of Orthopœdic Surgery. Compliments of the author.

Correlation of the Physical and Vital Forces. An Inaugural Address in the Jefferson Medical College, Philadelphia. By I. Aitken Meigs, M.D.

Atlas of Venereal Diseases. Part V. By A. Cullerier, Paris. Philadelphia: Henry C. Lea, 1868. From the publishers, through R. H. Singleton, Louisville, Ky.

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